TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 9. DEPARTMENT OF ENVIRONMENTAL QUALITY WATER POLLUTION CONTROL

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Article 4 consisting of Sections R9-20-401 through R9-20-407 adopted effective May 24, 1985.

Former Article 4 consisting of Sections R9-20-401 through R9-20-408 repealed effective May 24, 1985.

ARTICLE 8. REPEALED

Article 8, consisting of Sections R18-9-801 through R18-9-819, repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

Article 3 consisting of Sections R9-8-311 through R9-8-361 renumbered as Article 8, Sections R18-9-801 through R18-9-819 (Supp. 87-3).

ARTICLE 9. ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM

Editor's Note: The recodification at 7 A.A.R. 2522 described below erroneously moved Sections into 18 A.A.C. 9, Article 9. Those Sections were actually recodified to 18 A.A.C. 9, Article 10. See the Historical Notes for more information (Supp. 01-4).

Article 9, consisting of Sections R18-9-901 through R18-9-914 and Appendix A, recodified from 18 A.A.C. 13, Article 15 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2).

PART A. GENERAL REQUIREMENTS

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ARTICLE 10. ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM – DISPOSAL, USE, AND TRANSPORTATION OF BIOSOLIDS

Article 10, consisting of Sections R18-9-1001 through R18-9-1014 and Appendix A, recodified from 18 A.A.C. 13, Article 15 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2).

ARTICLE 1. AQUIFER PROTECTION PERMITS - GENERAL PROVISIONS

R18-9-101. Definitions

In addition to the definitions established in A.R.S. § 49-201, the following terms apply to Articles 1, 2, and 3 of this Chapter:

1. "Aggregate" means a clean graded hard rock, volcanic rock, or gravel of uniform size, 3/4 inch to 2 1/2 inches in diameter, offering 30% or more void space, washed or prepared to be free of fine materials that will impair absorption surface performance, and has a hardness value

of three or greater on the Moh's Scale of Hardness (can scratch a copper penny).

2. "Alert level" means a numeric value, expressing a concentration of a pollutant or a physical or chemical property of a pollutant, that is established in an individual permit and serves as an early warning indicating a potential violation of an Aquifer Water Quality Standard at the applicable point of compliance or a permit condition.
3. "Aquifer Protection Permit" means an individual or general permit issued under A.R.S. §§ 49-203, 49-241 through 49-252, and Articles 1, 2, and 3 of this Chapter.
4. "Aquifer Water Quality Standard" means a standard established under A.R.S. §§ 49-221 and 49-223.
5. "BADCT" means the best available demonstrated control technology, process, operating method, or other alternative to achieve the greatest degree of discharge reduction determined for a facility by the Director under A.R.S. § 49-243.
6. "Daily flow rate" means the average daily flow calculated for the month that has the highest total flow during a calendar year.
7 "Design capacity" means the volume of a containment feature at a discharging facility that accommodates all permitted flows and meets all Aquifer Protection Permit conditions, including allowances for appropriate peaking and safety factors to ensure sustained reliable operation.
8. "Design flow" means the daily flow rate a facility is designed to accommodate on a sustained basis while satisfying all permit discharge limitations and treatment and operational requirements. The design flow incorporates peaking and safety factors to ensure sustained, reliable operation.
9. "Direct reuse site" means an area where reclaimed water is applied or impounded.
10. "Disposal works" means the system for disposing of treated wastewater generated by the treatment works of a sewage treatment facility or on-site wastewater treatment facility, by surface or subsurface methods.
11. *"Drywell" means a well which is a bored, drilled or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water. Drywells do not include class 1, class 2, class 3 or class 4 injection wells as defined by the Federal Underground Injection Control Program (P.L. 93-523, part C), as amended.* A.R.S. § 49-331(3)
12. "Final permit determination" means a written notification to the applicant of the Director's final decision whether to issue or deny an Aquifer Protection Permit.
13. "Groundwater Quality Protection Permit" means a permit issued by the Arizona Department of Health Services or the Department. before September 27, 1989 that regulates the discharge of pollutants that may affect groundwater.
14. "Injection well" means a well that receives a discharge through pressure injection or gravity flow.
15. "Intermediate stockpile" means an accumulation of in-process material not intended for long term storage and in transit from one process to another at the mining site. Intermediate stockpile does not include metallic ore concentrate stockpiles or feedstocks not originating at the mining site.
16. "Mining site" means a site assigned one or more of the following primary Standard Industrial Classification Codes: 10, 12, 14, 32, and 33, and includes noncontiguous properties owned or operated by the same person and connected by a right-of-way controlled by that person to which the public is not allowed access.
17. "Notice of Disposal" means a document submitted to the Arizona Department of Health Services or the Department before September 27, 1989, giving notification of the discharge of pollutants that may affect groundwater.
18. "On-site wastewater treatment facility" means a conventional septic tank system or alternative system installed at a site to treat and dispose of wastewater, predominantly of human origin, generated at that site. An on-site wastewater treatment facility does not include a pre-fabricated, manufactured treatment works that typically uses an activated sludge unit process and has a design flow of 3000 gallons per day or more.
19. "Operational life" means the designed or planned useful period during which a facility remains operational while continuing to be subject to permit conditions, including closure requirements. Operational life does not include post closure activities.
20. "Pilot project" means a short term, limited scale test designed to gain information regarding site conditions, project feasibility, or application of a new technology.
21. "Process solution" means a pregnant leach solution, barren solution, raffinate, and other solutions uniquely associated with the mining or metals recovery process.
22. "Residential soil remediation level" means the applicable predetermined standard established in 18 A.A.C. 7, Article 2, Appendix A.
23. "Setback" means a minimum horizontal distance maintained between a feature of a discharging facility and a potential point of impact.
24. "Sewage" means untreated wastes from toilets, baths, sinks, lavatories, laundries, and other plumbing fixtures in places of human habitation, employment, or recreation.
25. "Sewage collection system" means a system of pipelines, conduits, manholes, pumping stations, force mains, and all other structures, devices, and appurtenances that collect, contain, and conduct sewage from its sources to the entry of a sewage treatment facility or on-site wastewater treatment facility serving sources other than a single residence.
26. "Sewage treatment facility" means a plant or system for sewage treatment and disposal, except an on-site wastewater treatment facility, that consists of treatment works, disposal works, and appurtenant pipelines, conduits, pumping stations, and related subsystems and devices.
27. "Surface impoundment" means a pit, pond, or lagoon with a surface dimension equal to or greater than its depth, and used for the storage, holding, settling, treatment, or discharge of liquid pollutants or pollutants containing free liquids.
28. "Tracer" means a substance, such as a dye or other chemical, used to change the characteristic of water or some other fluid to detect movement.
29. "Tracer study" means a test conducted using a tracer to measure the flow velocity, hydraulic conductivity, flow direction, hydrodynamic dispersion, partitioning coefficient, or other property of a hydrologic system.
30. "Typical sewage" means sewage in which the total suspended solids (TSS) content does not exceed 430 mg/l, the five-day biochemical oxygen demand (BOD) does not exceed 380 mg/l, and the content of fats, oils, and greases (FOG) does not exceed 75 mg/l.
31. *"Underground storage facility" means a constructed underground storage facility or a managed underground storage facility.* A.R.S. § 45-802.01(20).
32. "Waters of the United States" means:

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
b. All interstate waters, including interstate wetlands;
c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any waters:
   i. That are or could be used by interstate or foreign travelers for recreational or other purposes;
   ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
   iii. That are used or could be used for industrial purposes by industries in interstate commerce;
d. All impoundments of waters defined as waters of the United States under this definition;
e. Tributaries of waters identified in subsections (32)(a) through (d);
f. The territorial sea; and
g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in subsections (32)(a) through (f).

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Amended by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-102. Facilities to which Articles 1, 2, and 3 Do Not Apply

Articles 1, 2, and 3 do not apply to:
1. A drywell used solely to receive storm runoff and located so that no use, storage, loading, or treating of hazardous substances occurs in the drainage area;
2. A direct pesticide application in the commercial production of plants and animals subject to the Federal Insecticide, Fungicide, and Rodenticide Act (P.L. 92-516; 86 Stat. 975; 7 United States Code 135 et seq., as amended), or A.R.S. §§ 49-301 through 49-309 and applicable rules, or A.R.S. Title 3, Chapter 2, Article 6 and applicable rules.

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Amended by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-103. Class Exemptions

Class exemptions. In addition to the classes or categories of facilities listed in A.R.S. § 49-250(B), the following classes or categories of facilities are exempt from the Aquifer Protection Permit requirements of Articles 1, 2, and 3 of this Chapter.
1. Facilities that treat, store, or dispose of hazardous waste and have been issued a permit or have interim status, under the Resource Conservation and Recovery Act (P.L. 94-580; 90 Stat. 2796; 42 U.S.C. 6901 et seq., as amended), or have been issued a permit according to the hazardous waste management rules adopted under A.R.S. § 49-922;
2. Underground storage tanks that contain a regulated substance as defined in A.R.S. § 49-1001;
3. Facilities for the disposal of solid waste, as defined in A.R.S. § 49-701.01, that are located in unincorporated areas and receive solid waste from four or fewer households;
4. Land application of biosolids in compliance with 18 A.A.C. 9, Article 10.

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Subsection 4 citation corrected to reflect recodification at 7 A.A.R. 2522 (Supp. 03-1).

R18-9-104. Transition from Notices of Disposal and Groundwater Quality Protection Permitted Facilities

A. A person who filed a Notice of Disposal or received a Groundwater Quality Protection Permit shall notify the Department before any cessation. The Director shall specify any measure to be taken by the person to prevent a violation of an Aquifer Water Quality Standard at the point of compliance, determined by the criteria established in A.R.S. § 49-244.

B. A person who owns or operated a facility, for which a Notice of Disposal was filed or a Groundwater Quality Protection Permit was issued, or who owns or operates a facility required to obtain an Aquifer Protection Permit shall, within 90 days from the date on the Director's notification, submit an application for an Aquifer Protection Permit or a closure plan as specified under A.R.S. § 49-252.

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Amended by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-105. Continuance and Transition of Permits

A. Continuance.
1. Groundwater Quality Protection Permits.
   a. Subject to the other provisions of this Section, a Groundwater Quality Protection Permit issued before September 27, 1989 is valid according to the terms of the permit.
   b. A person who owns or operates a facility to which a Groundwater Quality Protection Permit was issued is in compliance with Articles 1, 2, and 3 of this Chapter and A.R.S. Title 49, Chapter 2, Article 3, if the person:
      i. Meets the conditions of the Groundwater Quality Protection Permit; and
      ii. Is not causing or contributing to the violation of any Aquifer Water Quality Standard at a point of compliance, determined by the criteria in A.R.S. § 49-244.
2. Notice of Disposal. A person who owns or operates a facility for which a Notice of Disposal was filed before September 27, 1989 complies with Articles 1, 2, and 3 of this Chapter and A.R.S. Title 49, Chapter 2, Article 3 if the facility is not causing or contributing to the violation of an Aquifer Water Quality Standard at a point of compliance, determined by the criteria in A.R.S. § 49-244.
3. Aquifer Protection Permit application submittal. A person who did not file a Notice of Disposal and does not possess a Groundwater Quality Protection Permit or an Aquifer Protection Permit for an existing facility, but submitted the information required in applicable rules before December 27, 1989, is in compliance with Articles 1, 2, and 3 of this Chapter only if the person submitted an

Aquifer Protection Permit application to the Department before January 1, 2001.

B. Applicability. Subsection (A) applies until the Director:
1. Issues an Aquifer Protection Permit for the facility,
2. Denies an Aquifer Protection Permit for the facility, or
3. Issues a letter of clean closure approval for the facility under A.R.S. § 49-252.

C. Transition.
1. From individual permit to general permit.
   a. To qualify for a general permit established in Article 3, an owner or operator of a facility who applied for or was issued an individual permit before January 1, 2001, or who operates a facility described in subsection (A) shall submit the information required by Article 3 and adhere to all applicable general permit conditions.
   b. The facility's individual permit is valid and enforceable until the date the Department receives Notification of Intent to Discharge, or until the date the Director issues a written Verification of General Permit Conformance, if required.
   c. If the Director does not provide the required verification, the facility's individual permit remains valid and enforceable until its stated date of expiration, if any.
2. Approvals to Construct.
   a. Any Approval to Construct a sewerage system issued under 18 A.A.C. 9, Article 8 before January 1, 2001 is valid until its stated date of expiration.
   b. The Department shall accept the Approval to Construct instead of the design report requirements specified in R18-9-B202(A) if the individual permit application is in process on January 1, 2001.
   c. The Director shall provide a Verification of General Permit Conformance under R18-9-A301(D), for an on-site wastewater treatment facility with a flow of less than 20,000 gallons per day if the facility is constructed according to the specifications in the Approval to Construct.

D. Monitoring. The Director may amend an individual permit to incorporate monitoring requirements to ensure that reclaimed water quality standards developed under A.R.S. § 49-221(E) are met.

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Amended effective November 12, 1996 (Supp. 96-4). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-106. Determination of Applicability

A. A person who engages or who intends to engage in an operation or an activity that may result in a discharge regulated under Articles 1, 2, and 3 of this Chapter may submit a request on a form provided by the Department that the Department determine the applicability of A.R.S. §§ 49-241 through 49-252 and Articles 1, 2, and 3 of this Chapter to the operation or activity.

B. A person requesting a determination of applicability shall provide the following information:
1. The name of the operation or activity;
2. The location of the operation or activity;
3. The names of the persons who are engaging or who propose to engage in the operation or activity:
4. A description of the operation or activity;
5. A description of the volume, chemical composition, and characteristics of materials stored, handled, used, or disposed of in the operation or activity; and
6. Any other information required by the Director to make the determination of applicability.

C. Within 45 days after receipt of a request for a determination of applicability, the Director shall notify in writing the person making the request that the operation or activity:
1. Is not subject to the requirements of A.R.S. §§ 49-241 through 49-252 and Articles 1, 2, and 3 of this Chapter because the operation or facility does not discharge as described under A.R.S. § 49-241;
2. Is not subject to the requirements of A.R.S. §§ 49-241 through 49-252 and Articles 1, 2, and 3 of this Chapter because the operation or activity is exempted by A.R.S. § 49-250 or R18-9-103;
3. Is eligible for a general permit under A.R.S. §§ 49-245.01, 49-245.02 or 49-247 or Article 3 of this Chapter, specifying the particular general permit that applies, provided the person meets the conditions of the general permit; or
4. Is subject to the permit requirements of A.R.S. §§ 49-241 through 49-252 and Articles 1, 2, and 3 of this Chapter.

D. If, after issuing a determination of applicability under this Section, the Department concludes that its determination or the information relied upon for a determination is inaccurate, the Department may modify or withdraw its determination upon written notice to the person who requested the determination of applicability.

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Amended by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-107. Consolidation of Aquifer Protection Permits

A. The Director may consolidate any number of individual or general permits into a single individual permit, if:
1. The facilities are part of the same project or operation and are located in a contiguous geographic area, or
2. The facilities are part of an area under the jurisdiction of a single political subdivision.

B. All applicable individual permit requirements established in Articles 1 and 2 of this Chapter apply to the consolidation of Aquifer Protection Permits.

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-108. Public Notice

A. Individual permits.
1. The Department shall provide the entities specified in subsection (A)(2), monthly written notification of the following:
   a. Individual permit applications,
   b. Temporary permit applications,
   c. Preliminary and final decisions by the Director whether to issue or deny an individual or temporary permit,
   d. Closure plans received under R18-9-A209(B),
   e. Significant permit amendments and "other" permit amendments,
   f. Permit revocations, and
   g. Clean closure approvals.
2. Entities.

a. Each county department of health, environmental services, or comparable department;
b. An affected federal, state, local agency, or council of government; and
c. A person who requested, in writing, notification of the activities described in subsection (A).

3. The Department may post the information referenced in subsections (A)(1) and (A)(2) on the Department web site: www.adeq.state.az.us.

B. General permits. Public notice requirements do not apply.

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-109. Public Participation

A. Notice of Preliminary Decision.
1. The Department shall publish a Notice of Preliminary Decision regarding the issuance or denial of a significant permit amendment or a final permit determination in one or more newspapers of general circulation where the facility is located.
2. The Department shall accept written comments from the public before a significant permit amendment or a final permit determination is made.
3. The written public comment period begins on the publication date of the Notice of Preliminary Decision and extends for 30 calendar days.

B. Public hearing.
1. The Department shall provide notice and conduct a public hearing to address a Notice of Preliminary Decision regarding a significant permit amendment or final permit determination if:
   a. Significant public interest in a public hearing exists, or
   b. Significant issues or information have been brought to the attention of the Department that has not been considered previously in the permitting process.
2. If, after publication of the Notice of Preliminary Decision, the Department determines that a public hearing is necessary, the Department shall schedule a public hearing and publish the Notice of Preliminary Decision at least once, in one or more newspapers of general circulation where the facility is located.
3. The Department shall accept written public comment until the close of the hearing record as specified by the person presiding at the public hearing.

C. At the same time the Department notifies a permittee of a significant permit amendment or an applicant of the final permit determination, the Department shall send, through regular mail, a notice of the amendment or determination to any person who submitted comments or attended a public hearing on the significant permit amendment or final permit determination.

D. The Department shall respond in writing to all written comments submitted during the written public comment period.

E. General permits. Public participation requirements do not apply.

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-110. Inspections, Violations, and Enforcement

A. The Department shall conduct any inspection of a permitted facility as specified under A.R.S. § 41-1009.

B. Except as provided in R18-9-A308, a person who owns or operates a facility contrary to a provision of Articles 1, 2, and 3 of this Chapter, violates a condition of an Aquifer Protection Permit, or violates a Groundwater Quality Protection Permit continued by R18-9-105(A)(1) is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4.

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-111. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-112. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-113. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-114. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-115. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-116. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-117. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-118. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-119. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-120. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Repealed effective July 14, 1998 (Supp. 98-3).

R18-9-121. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-122. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-123. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Repealed effective November 15, 1996 (Supp. 96-4).

R18-9-124. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-125. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-126. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-127. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-128. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Repealed effective November 12, 1996 (Supp. 96-4).

R18-9-129. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-130. Repealed

Historical Note
Adopted effective September 27, 1989 (Supp. 89-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

Appendix I. Repealed

Historical Note
Appendix I repealed by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

ARTICLE 2. AQUIFER PROTECTION PERMITS - INDIVIDUAL PERMITS

PART A. APPLICATION AND GENERAL PROVISIONS

R18-9-A201. Application

A. Individual permit application.
1. A person may submit an individual permit application that covers one or more of the following categories:
   a. Drywell,
   b. Industrial,
   c. Mining,
   d. Wastewater, or
   e. Solid waste disposal.
2. The applicant shall provide the Department with:
   a. The following information on an application form:
      i. The name and mailing address of the applicant;
      ii. The social security number of the applicant, if the applicant is an individual;
      iii. The name and mailing address of the owner of the facility;
      iv. The name and mailing address of the operator of the facility;
      v. The legal description of the location of the facility;
      vi. The expected operational life of the facility; and
      vii. Any other federal or state environmental permit issued to the applicant.
   b. A copy of the certificate of disclosure required by A.R.S. § 49-109;
   c. Evidence that the facility complies with applicable municipal or county zoning ordinances, codes, and regulations;
   d. Two copies of the technical information required in R18-9-A202(A);
   e. The financial information required in R18-9-A203;
   f. The site-specific conditions specified in R18-9-A202;
   g. For a sewage treatment facility, a design report signed and sealed by an Arizona-registered professional engineer, containing the information required in R18-9-B202;
   h. Certification in writing that the information submitted in the application is true and accurate to the best of the applicant's knowledge; and
   i. The applicable fee established in 18 A.A.C. 14.
3. Special provision for underground storage facilities. A person applying for an individual permit for an underground storage facility shall submit the information described in R18-9-A201 through R18-9-A203, except the BADCT information specified in R18-9-A202(A)(5).
   a. Upon receipt of the application, the Department shall process the application in coordination with the underground storage facility permit process administered by the Department of Water Resources.
   b. The Department shall advise the Department of Water Resources of each permit application received.

B. Pre-application conference. Upon request of the applicant, the Department shall schedule and hold a pre-application confer-

ence with the applicant to discuss any requirements in Articles 1 and 2 of this Chapter.

C. Draft permit. The Department shall provide the applicant with a draft of the individual permit on or immediately before publication of the Notice of Preliminary Decision specified in R18-9-109.

D. Permit Duration. Except for a temporary permit, an individual permit is valid for the operational life of the facility and any period during which the facility is subject to a post-closure plan under R18-9-A209(C).

E. Permit issuance or denial.

1. The Director shall issue an individual permit if the Director determines, based upon the information obtained by or made available to the Department, that the applicant will comply with A.R.S. §§ 49-241 through 49-252 and Articles 1 and 2 of this Chapter.
2. The Director shall provide the applicant with written notification of the final decision to issue or deny the permit application within the overall licensing time-frame requirements under 18 A.A.C. 1, Chapter 5.
3. If the Director denies an individual permit application the Director shall provide the applicant with a written notification that explains:
   a. The reason for the denial with reference to the statute or rule on which the denial is based;
   b. The applicant's right to appeal the denial, including the number of days the applicant has to file a protest challenging the denial and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
   c. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.
4. Permit applications received before August 16, 1999, not subject to licensing time-frames, shall be issued or denied within 30 days after close of public comment established in the public notice, or if a public hearing is held, within 45 days after the public hearing record is closed.
   a. The Director may extend the final decision deadline for not more than 90 days after the close of the public comment period, or, if a public hearing is held, after the public hearing record is closed, if the Director determines that additional information is required to make the decision whether to issue or deny a permit.
   b. The Director shall provide the applicant with written notification of a decision to extend the final decision deadline within 15 days after the close of the public comment period or if a public hearing is held, within 15 days after the public hearing record is closed.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A202. Technical Requirements

A. Except as specified in R18-9-A201(A)(3), an applicant shall submit the following technical information as attachments to the individual permit application:

1. A topographic map, or other appropriate map approved by the Department, of the facility location and contiguous land area showing the known use of adjacent properties, all known water well locations found within one-half mile of the facility, and a description of well construction details and well uses, if available;
2. A facility site plan showing all known property lines, structures, water wells, injection wells, drywells and their uses, topography, and the location of points of discharge. The facility site plan shall include all known borings unless the Department determines that borings are numerous and the requirement may be satisfied by a narrative description of the number and location of the borings;
3. The facility design documents indicating proposed or as-built design details and proposed or as-built configuration of basins, ponds, waste storage areas, drainage diversion features, or other engineered elements of the facility affecting discharge. When formal as-built submittals are not available, the applicant shall provide documentation, sufficient to allow evaluation of those elements of the facility affecting discharge, following the demonstration requirements of A.R.S. § 49-243(B). An applicant seeking an Aquifer Protection Permit for a sewage treatment facility shall submit design documents required in R18-9-B203;
4. A summary of the known past facility discharge activities and the proposed facility discharge activities indicating all of the following:
   a. The chemical, biological, and physical characteristics of the discharge;
   b. The rate, volume, and frequency of the discharge for each facility; and
   c. The location of the discharge.
5. A description of the BADCT to be employed in the facility, including:
   a. A statement of the technology, processes, operating methods, or other alternatives that will be employed to meet the requirements of A.R.S. § 49-243(B), (G), or (P), as applicable. The statement shall describe:
      i. The alternative discharge control measures considered,
      ii. The technical and economic advantages and disadvantages of each alternative, and
      iii. The justification for selection or rejection of each alternative.
   b. An evaluation of each alternative discharge control technology relative to the amount of discharge reduction achievable, site specific hydrologic and geologic characteristics, other environmental impacts, and water conservation or augmentation;
   c. For a new facility, an industry-wide evaluation of the economic impact of implementation of each alternative control technology;
   d. For an existing facility, a statement reflecting the consideration of factors listed in A.R.S. §§ 49-243(B)(1)(a) through (B)(1)(h);
   e. The above requirements do not apply if the Department verifies that a sewage treatment facility meets the BADCT requirements under Article 2, Part B of this Chapter.
6. Proposed points of compliance for the facility based on A.R.S. § 49-244. An applicant shall demonstrate that:
   a. The facility will not cause or contribute to a violation of the Aquifer Water Quality Standards at the proposed point of compliance, or
   b. If an Aquifer Water Quality Standard for a pollutant has been exceeded in an aquifer at the time of permit issuance, no additional degradation of the aquifer relative to that pollutant and determined at the proposed point of compliance will occur as a result of the discharge from the proposed facility.
7. A contingency plan that meets the requirements of R18-9-A204;

8. A hydrogeologic study that defines the discharge impact area for the expected duration of the facility. The Department may allow the applicant to submit an abbreviated hydrogeologic study or, if warranted, no hydrogeologic study, based upon the quantity and characteristics of the pollutants discharged, the methods of disposal, and the site conditions. Information from a previous study of the affected area may be included to meet a requirement of the hydrogeologic study, if the previous study accurately represents current hydrogeologic conditions. The hydrogeologic study shall demonstrate:
   a. That the facility will not cause or contribute to a violation of Aquifer Water Quality Standards at the applicable point of compliance; or
   b. If an Aquifer Water Quality Standard for a pollutant has been exceeded in an aquifer at the time of permit issuance that no additional degradation of the aquifer relative to that pollutant and determined at the applicable point of compliance will occur as a result of the discharge from the proposed facility;
   c. Based on the quantity and characteristics of pollutants discharged, methods of disposal, and site conditions, the Department may require the applicant to provide:
      i. A description of the surface and subsurface geology, including a description of all borings;
      ii. The location of any perennial, intermittent, or ephemeral surface water bodies;
      iii. The characteristics of the aquifer and geologic units with limited permeability, including depth, hydraulic conductivity, and transmissivity;
      iv. Rate, volume, and direction of surface water and groundwater flow, including hydrographs, if available, and equipotential maps;
      v. The precise location or estimate of the location of the 100-year flood plain and an assessment of the 100-year flood surface flow and potential impacts on the facility;
      vi. Documentation of the existing quality of the water in the aquifers underlying the site, including, where available, the method of analysis, quality assurance, and quality control procedures associated with the documentation;
      vii. Documentation of the extent and degree of any known soil contamination at the site;
      viii. An assessment of the potential of the discharge to cause the leaching of pollutants from surface soils or vadose materials;
      ix. Any anticipated changes in the water quality expected because of the discharge;
      x. A description of any expected changes in the elevation or flow directions of the groundwater that may be caused by the facility;
      xi. A map of the facility's discharge impact area;
      xii. The criteria and methodologies used to determine the discharge impact area; or
      xiii. The proposed location of each point of compliance.
9. A detailed proposal indicating the alert levels, discharge limitations, monitoring requirements, compliance schedules, and temporary cessation, closure, and post-closure strategies or plans that the applicant will use to satisfy the requirements of A.R.S. Title 49, Chapter 2, Article 3, and Articles 1 and 2 of this Chapter;
10. Any other relevant information required by the Department to determine whether to issue a permit.

B. An applicant shall demonstrate the ability to maintain the technical capability necessary to carry out the terms of the individual permit, including a demonstration that the facility will be operated by a certified operator if a certified operator is required under 18 A.A.C. 5. An applicant shall make the demonstration by submitting the following information for each person principally responsible for designing, constructing, or operating the facility:
1. Pertinent licenses or certifications held by the person;
2. Professional training relevant to the design, construction, or operation of the facility; and
3. Work experience relevant to the design, construction, or operation of the facility.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A203. Financial Requirements

A. Cost estimates. A person applying for an individual permit shall demonstrate financial capability to construct, operate, close, and assure proper post-closure care of the facility in compliance with A.R.S. Title 49, Chapter 2, Article 3; Articles 1 and 2 of this Chapter; and the conditions of the individual permit.
1. The applicant shall submit the following cost estimates:
   a. Total cost of new facility construction;
   b. The operation and maintenance costs of those elements of the facility used to comply with the demonstration under A.R.S. § 49-243(B);
   c. The cost of closure, described in R18-9-A209(B), consistent with the closure plan or strategy submitted under R18-9-A202(A)(9); and
   d. The cost of post-closure monitoring and maintenance, described in R18-9-A209(C), consistent with the post closure plan or strategy submitted under R18-9-A202(A)(9).
2. The cost estimates for facility construction, operation, and maintenance shall be derived from competitive bids, construction plan take-offs, or specifications, if available. The cost estimates may be prepared by an engineer, contractor, or accountant and shall be representative of regional fair market costs.

B. Financial demonstration. The applicant's chief financial officer shall submit a statement indicating that the applicant is financially capable of meeting the costs described in subsection (A).
1. The statement shall specify in detail the financial arrangements for meeting the estimated closure and post-closure costs, according to the plans or strategies submitted under R18-9-A202(A)(9).
2. An applicant other than a state or federal agency, county, city, town, or other local government entity, shall further support the demonstration of financial capability with at least one of the following:
   a. If a publicly traded corporation, the latest fiscal year-end copy of the applicant's 10K or 20F Form filed under section 13 or 15(d) of the federal Securities Exchange Act of 1934;
   b. If a non-publicly traded corporation, a report that contains all of the following:
      i. A brief description of the applicant's status as a corporation;
      ii. A brief description of the applicant's business;
      iii. Signed and dated copies of the applicant's U.S.

tax returns with all schedules from the two previous tax years and a copy of the most recent year-end financial statement;

iv. A brief description of any civil judgement exceeding $100,000 against the applicant during the last five years preceding the date of the application;

v. A brief description of any bankruptcy proceeding instituted by the applicant during the five years preceding the date of the application; and

vi. The names of the corporation's executive officers and their dates of birth or ages.

c. If the applicant is a partnership or limited liability entity, the name of any principal who owns more than a 20% interest in the business entity;

d. If the person is an individual, non-business applicant, a current financial statement and evidence of current personal income or assets.

C. The Department shall consider an applicant unable to demonstrate the financial capability necessary to fully carry out the terms of the permit, as described in subsection (B), and shall require the applicant to submit a financial assurance mechanism under subsection (D) if any one of the following conditions exists:

1. For a publicly traded corporation:
   a. The 10K Form or 20F Form indicates that the company received an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant auditing its financial statements;
   b. Standard and Poor's or Moody's Investors Service has assigned the applicant an unsecured debt rating less than investment grade. Unacceptable ratings are Standard and Poor's: BB, B, CCC, C, D or Speculative; Moody's Investors Services: Ba, B, Caa, Ca C, or Speculative or lack of an unsecured credit rating by Standard and Poor's or Moody's Investors Service; or
   c. Lack of assets in the United States equal to at least 90% of the total closure and post-closure care cost estimates.
2. For a non-publicly traded corporation:
   a. Lack of a financial statement prepared by an independent certified public accountant, including all balance sheet notes and schedules;
   b. Lack of assets located in the United States equal to at least 90% of total assets or assets amounting to less than six times the costs of closure and post-closure care; or
   c. Lack of net working capital and tangible net worth of at least six times the costs of closure and post-closure care.

D. Financial demonstration option.

1. Instead of the financial demonstration required in subsection (B), an applicant may submit evidence of one or more of the following financial assurance mechanisms, listed in A.R.S. § 49-761(J), sufficient to cover the costs described in subsection (A). The applicant shall provide written documentation demonstrating compliance with the listed requirements for each financial assurance mechanism.
   a. Performance surety bond.
      i. The surety is listed in Department of Treasury, Circular 570, as qualified in the state where the bond is signed; and
      ii. The surety's underwriting limit is at least as great as the amount of the surety bond.
   b. Certificate of deposit.
      i. The Certificate of deposit is issued by a financial institution that is insured by the Federal Deposit Insurance Corporation or Federal Savings and Loan Insurance corporation, and
      ii. The Certificate of deposit is assigned to the Director.
   c. Trust fund with pay-in period.
      i. The trustee is an entity who has the authority to act as a trustee, and
      ii. The trust operation is regulated and examined by a federal or state agency.
   d. Irrevocable letter of credit.
      i. The issuing financial institution has authority to issue letters of credit, and
      ii. The issuing financial institution is regulated and examined by a federal or state agency.
   e. Insurance policy.
      i. The insurer is licensed to transact the business of insurance or as an excess or surplus lines insurer in one or more states, and
      ii. The insurer is a non-captive insurer.
   f. Deposit with the state treasurer.
   g. Guarantee.
      i. A guarantor is the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a substantial business relationship with the owner or operator; and
      ii. A guarantor meets the requirements of subsection (D) and complies with the terms of the guarantee.
   h. One or more financial assurance mechanisms; or
   i. An additional financial assurance mechanism approved by the Director.
2. A permittee may substitute one financial assurance mechanism for another with prior Director approval.
3. A permittee shall hold the financial assurance mechanism for the duration of the permit or until the permittee is able to demonstrate the financial capability under subsection (B) necessary to carry out the terms of the Aquifer Protection Permit.

E. If, after issuing an individual permit, the Director determines that a permittee is not able to maintain the financial capability required in subsection (B), the permittee shall provide evidence of a financial assurance mechanism within 90 days from the date on the Department's notification.

F. If the Director has reason to believe that a permittee will lose financial capability, the Director may request demonstration of financial capability no more than quarterly throughout the duration of an individual permit. The permittee shall provide the information within 90 days from the date on the request.

G. If a person demonstrates that a financial capability requirement under this Article is duplicative of a financial capability demonstration already made to the state and the Department has access to that information, the person is not required to resubmit that information.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A204. Contingency Plan

A. An individual permit shall specify a contingency plan that defines the actions to be taken if a discharge results in any of the following:
1. A violation of a permit condition,
2. A violation of an Aquifer Water Quality Standard,
3. An alert level is exceeded,
4. A discharge limitation is exceeded, or
5. An imminent and substantial endangerment to the public health or the environment.

B. The contingency plan may include one or more of the following actions if a discharge results in any of the conditions described in subsection (A):
1. Verification sampling;
2. Notification to downstream or downgradient users who may be directly affected by the discharge;
3. Further monitoring that may include increased frequency, additional constituents, or additional monitoring locations;
4. Inspection, testing, or maintenance of discharge control features of the facility;
5. For sewage treatment facilities, pretreatment evaluation;
6. Preparation of a hydrogeologic study to assess the extent of soil, surface water, or aquifer impact;
7. Corrective action that may include any of the following measures:
   a. Control of the source of an unauthorized discharge,
   b. Soil cleanup,
   c. Cleanup of affected surface waters,
   d. Cleanup of affected parts of the aquifer, or
   e. Mitigation measures to limit the impact of pollutants on existing uses of the aquifer.

C. Each corrective action proposed under subsection (B)(7) is subject to approval by the Department.
1. Emergency response provisions and corrective actions specifically identified in the contingency plan submitted with a permit application are subject to approval by the Department during the application review process.
2. Corrective actions other than those already identified in the contingency plan may be proposed to the Department by the permittee if a discharge results in any of the conditions identified in subsection (A).
3. The Department shall approve a proposed corrective action if the corrective action returns the facility to compliance with the facility's permit conditions, A.R.S. Title 49, Chapter 2 and Articles 1 and 2 of this Chapter.
4. Approved corrective actions other than those already identified in the contingency plan may be incorporated by the Director into an Aquifer Protection Permit.

D. A contingency plan shall contain emergency response provisions to address an imminent and substantial endangerment to public health or the environment including:
1. Twenty-four hour emergency response measures;
2. The name of an emergency response coordinator responsible for implementing the contingency plan;
3. Immediate notification of the Department regarding any emergency response measure taken;
4. A list of names, addresses and telephone numbers of persons to be contacted if an imminent and substantial endangerment to public health or the environment arises; and
5. A general description of the procedures, personnel, and equipment that will be used to mitigate unauthorized discharges.

E. A contingency plan required by the Federal Water Pollution Control Act (P.L. 92-500; 86 Stat. 816; 33 U.S.C. 1251, et seq., as amended), or the Resource Conservation and Recovery Act of 1976 (P.L. 94-580; 90 Stat. 2796; 42 U.S.C. 6901 et seq., as amended), may be amended to meet the requirements of this Section and submitted to the Department for approval instead of a separate aquifer protection contingency plan.

F. A permittee shall maintain at least one copy of the contingency plan required by the individual permit at the location where day-to-day decisions regarding the operation of the facility are made. A permittee shall advise all employees responsible for the operation of the facility of the location of the contingency plan.

G. A permittee shall promptly revise the contingency plan upon any change to the information contained in the plan.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A205. Alert Levels and Discharge Limitations

A. Alert levels.
1. The Department shall establish alert levels in an individual permit. The alert levels shall be based on the site-specific conditions described by the applicant in the application submitted under R18-9-A201(A)(2) or other information available to the Department.
2. The Department may specify an alert level based on a pollutant that indicates the potential appearance of another pollutant.
3. The Department may specify the measurement of an alert level at a location appropriate for the discharge activity, considering the physical, chemical, and biological characteristics of the discharge, the particular treatment process, and the site-specific conditions.

B. Discharge Limitations. The Department shall prescribe discharge limitations based on the considerations described in A.R.S. § 49-243.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A206. Monitoring Requirements

A. Monitoring.
1. The Department shall determine whether monitoring is required to assure compliance with Aquifer Protection Permit conditions and with the applicable Aquifer Water Quality Standards established under A.R.S. §§ 49-221, 49-223, 49-241 through 49-244, and 49-250 through 49-252.
2. If monitoring is required, the Director shall specify to the permittee:
   a. The type and method of monitoring to be conducted;
   b. The frequency of monitoring;
   c. Any requirements for the installation, use, or maintenance of monitoring equipment; and
   d. The intervals at which the permittee shall report monitoring results to the Department.

B. Recordkeeping.
1. A permittee shall make a monitoring record for each sample taken as required by the individual permit consisting of all of the following:
   a. The date, time, and exact place of a sampling and the name of each individual who performed the sampling;
   b. The procedures used to collect the sample;
   c. The date sample analysis was completed;
   d. The name of each individual or laboratory performing the analysis;

e. The analytical techniques or methods used to perform the sampling and analysis;
f. The chain of custody records; and
g. Any field notes relating to the information described in subsections (B)(1)(a) through (B)(1)(f).

2. A permittee shall make a monitoring record for each measurement made as required by the individual permit consisting of all of the following:
a. The date, time, and exact place of the measurement and the name of each individual who performed the measurement;
b. The procedures used to make the measurement; and
c. Any field notes relating to the information described in subsections (B)(2)(a) and (B)(2)(b).

3. A permittee shall maintain monitoring records for at least 10 years after the date of the sample or measurement.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A207. Reporting Requirements

A. A permittee shall notify the Department within five days after becoming aware of a violation of a permit condition or that an alert level has been exceeded. The permittee shall inform the Department whether the contingency plan described in R18-9-A204 has been implemented.

B. In addition to the requirements in subsection (A), a permittee shall submit a written report to the Department within 30 days after the permittee becomes aware of the violation of a permit condition. The report shall contain:
1. A description of the violation and its cause;
2. The period of violation, including exact date and time, if known, and the anticipated time period the violation is expected to continue;
3. Any action taken or planned to mitigate the effects of the violation or to eliminate or prevent recurrence of the violation;
4. Any monitoring activity or other information that indicates that a pollutant is expected to cause a violation of an Aquifer Water Quality Standard; and
5. Any malfunction or failure of a pollution control device or other equipment or process.

C. A permittee shall notify the Department within five days after the occurrence of any of the following:
1. The permittee's filing of bankruptcy, or
2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

D. The Director shall specify the format for submitting results from monitoring conducted under R18-9-A206.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A208. Compliance Schedule

A. A permittee shall follow the compliance schedule established in the individual permit.
1. If a compliance schedule provides that actions are to be taken during a period that exceeds one year from the date of permit issuance, the schedule shall establish interim requirements and dates for their achievement.
2. If the time necessary for completion of an interim requirement is more than one year and is not readily divisible into stages for completion, the permit shall contain interim dates for submission of reports on progress toward completion of the interim requirements and shall indicate a projected completion date.
3. Within 30 days after the applicable date specified in a compliance schedule, a permittee shall submit to the Department a report indicating whether the required action was taken within the time specified.
4. After reviewing the compliance schedule activity the Director may amend the Aquifer Protection Permit, based on changed circumstances relating to the required action.

B. The Department shall consider all of the following factors when setting the compliance schedule requirements:
1. The character and impact of the discharge,
2. The nature of construction or activity required by the permit,
3. The number of persons affected or potentially affected by the discharge,
4. The current state of treatment technology, and
5. The age of the facility.

C. For a new facility, the Department shall not defer to a compliance schedule any requirement necessary to satisfy the criteria under A.R.S. § 49-243(B).

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A209. Temporary Cessation, Closure, Post-closure

A. Temporary cessation.
1. A permittee shall notify the Department before a cessation of operations at the facility of at least 60 days duration.
2. The permittee shall implement any measures specified in the individual permit for the temporary cessation.
3. If the permit does not specify temporary cessation measures, the Department shall require the permittee to submit specifications for each measure for approval by the Department.

B. Closure.
1. A permittee shall notify the Department of the permittee's intent to cease operations without resuming an activity for which the facility was designed or operated.
a. The permittee shall submit a closure plan for Director approval within 90 days following the notification of intent to cease operations with the applicable fee established in 18 A.A.C. 14. The closure plan shall describe:
i. The approximate quantity and chemical, biological, and physical characteristics of each material to be removed from the facility;
ii. The destination of the materials to be removed from the facility and documentation that the destination is approved to accept the materials;
iii. The approximate quantity and chemical, biological, and physical characteristics of each material that remains at the facility;
iv. The method to be used to treat any material remaining at the facility;
v. The method to be used to control the discharge of pollutants from the facility;
vi. Any limitations on future land or water uses created as a result of the facility's operations or closure activities;
vii. The methods to be used to secure the facility;
viii. An estimate of the cost of closure;
ix. A schedule for implementation of the closure plan and the submission of a post-closure plan; and

x. Any other relevant information the Department determines to be necessary.

b. Upon receipt of a complete closure plan, the Director shall:

i. Provide written notification of the closure as specified in R18-9-108, and

ii. If the proposed closure plan does not achieve clean closure, publish a Notice of Preliminary Decision for a permit amendment or issuance of an individual permit as specified in R18-9-109.

2. Within 60 days of receipt of a complete closure plan, the Department shall determine whether the closure plan achieves clean closure.

a. If the closure plan achieves clean closure, the Director shall send a letter of approval to the permittee;

b. If the closure plan does not achieve clean closure, the permittee shall submit a post closure plan under subsection (C) and the following documents within 90 days from the date on the Department's notice or as specified under A.R.S. § 49-252(E):

i. An application for an individual permit, or

ii. A request to modify a current individual permit to address closure activities and post-closure monitoring and maintenance at the facility.

3. The Director shall require implementation of the closure plan as a permit condition.

C. Post-closure. A permittee shall describe post-closure monitoring and maintenance activities in a plan and submit it to the Department for approval.

1. The plan shall include:

a. The duration of post-closure care;

b. The monitoring procedures to be implemented by the permittee, including monitoring frequency, type, and location;

c. A description of the operating and maintenance procedures to be implemented for maintaining aquifer quality protection devices, such as liners, treatment systems, pump-back systems, and monitoring wells;

d. A schedule and description of physical inspections to be conducted at the facility following closure;

e. An estimate of the cost of post-closure maintenance and monitoring; and

f. A description of limitations on future land or water uses, or both, at the facility site as a result of facility operations.

2. The Director shall include the post-closure plan submitted under subsection (C)(1) in the individual permit.

D. The permittee shall provide the Department with written notice that a closure plan or a post-closure plan has been fully implemented within 30 calendar days of completion.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A210. Temporary Individual Permit

A. A person may apply for a temporary individual permit for either of the following:

1. A pilot project necessary to develop data for an Aquifer Protection Permit application for the full-scale project, or

2. A temporary facility with a discharge lasting no more than six months.

B. The applicant shall submit a preliminary application containing the information required in R18-9-A201(A)(2)(a).

C. The Department shall, based on the preliminary application and in consultation with the applicant, determine and provide the applicant notice of what additional information in R18-9-A201(A)(2) is necessary to complete the application.

D. Public participation.

1. If the Director issues a temporary individual permit, the Director shall postpone the public participation requirements under R18-9-109.

2. The Director shall not postpone notification of the opportunity for public participation for more than 30 days from the date on the temporary individual permit.

3. The Director may modify or revoke the temporary individual permit after consideration of public comments.

C. A temporary individual permit expires after one year unless it is renewed. A permittee may renew a temporary individual permit no more than one time.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A211. Permit Amendments

A. The Director may amend an individual permit based upon a request or upon the Director's initiative.

1. A permittee shall submit a request for permit amendment in writing on a form provided by the Department with the applicable fee established in 18 A.A.C. 14, explaining the facts and reasons justifying the request.

2. The Department shall process amendment requests following the licensing time-frames established under 18 A.A.C. 1, Article 5.

B. Significant permit amendment. The Director shall make a significant amendment to an individual permit if:

1. Part or all of an existing facility becomes a new facility under A.R.S. § 49-201;

2. A physical change in a permitted facility or a change in its method of operation results in:

a. An increase of 10% or more in the permitted volume of pollutants discharged, except a sewage treatment facility;

b. An increase in design flow of a sewage treatment facility as follows:

Permitted Design Flow	% Increase in Design Flow
500,000 gallons per day or less	10%
Greater than 500,000 gallons per day but less than or equal to five million gallons per day	6%
Greater than five million gallons per day but less than or equal to 50 million gallons per day	4%
Greater than 50 million gallons per day	2%

c. Discharge of an additional pollutant not allowed by a facility's original individual permit. The Director may consider the addition of a pollutant with a chemical composition substantially similar to a pollutant the permit currently allows by making an "other" amendment to the individual permit as prescribed in subsection (D);

d. For any pollutant not addressed in a facility's individual permit, any increase that brings the level of the pollutant to within 80% or more of a numeric Aquifer Water Quality Standard at the point of compliance;

e. An increase in the concentration in the discharge of a pollutant listed under A.R.S. § 49-243(I).

3. Based upon available information, the facility can no longer demonstrate that its discharge will comply with A.R.S. § 49-243(B)(2) or (3);
4. The permittee requests and the Department makes a monitoring change, not specified in the individual permit, that will reduce the frequency in monitoring or reporting or that will reduce the number of pollutants monitored and the permittee demonstrates that the changes do not affect its ability to remain in compliance with Articles 1 and 2 of this Chapter;
5. It is necessary to change the designation of a point of compliance;
6. The permittee requests and the Department makes less stringent discharge limitations and demonstrates that the changes will not affect the permittee's ability to remain in compliance with Articles 1 and 2 of this Chapter;
7. It is necessary to make an addition to or a substantial change in closure requirements or to provide for post-closure maintenance and monitoring;
8. Material and substantial alterations or additions to a permitted facility justify a change in permit conditions.

C. Minor permit amendment. The Director shall make a minor amendment to an individual permit to:

1. Correct a typographical error;
2. Change nontechnical administrative information, excluding a permit transfer;
3. Correct minor technical errors, such as errors in calculation, locational information, citations of law, and citations of construction specifications;
4. Increase the frequency of monitoring or reporting, or to revise a laboratory method;
5. Make a discharge limitation more stringent; or
6. Insert calculated alert levels or other permit limits into a permit based on monitoring subsequent to permit issuance, if a requirement to establish the levels or limits and the method for calculation of the levels or limits was established in the original permit.

D. "Other" permit amendment.

1. The Director may make an "other" amendment to an individual permit if the amendment is not a significant or minor permit amendment prescribed in this Section, based on an evaluation of the information relevant to the amendment.
2. Examples of an "other" amendment to an individual permit include:
   a. A change in a construction requirement or operational practice, if the alteration complies with the requirements of Articles 1 and 2 of this Chapter and provides equal or better performance;
   b. A change in an interim or final compliance date in a compliance schedule, if the Director determines just cause exists for changing the date;
   c. A change in the permittee's financial assurance mechanism under R18-9-A203(D)(2);
   d. Permit transfer under R18-9-A212;
   e. Replacement of monitoring equipment, including a well, if the replacement results in equal or greater monitoring effectiveness;
   f. Any increase in the volume of pollutants discharged that is less than that described in subsection (B)(2)(a) or (B)(2)(b);
   g. An adjustment of the permit to conform to rule or statutory provisions;
   h. A combination of two or more permits at the same site as specified under R18-9-107; or
   i. An adjustment of monitoring requirements to ensure reclaimed water quality standards developed under A.R.S. § 49-221(E) are met.

E. The public notice and public participation requirements of R18-9-108 and R18-9-109 apply to a significant amendment. The public notice requirements apply to an "other" amendment. A minor amendment does not require a public notice or public participation.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A212. Permit Transfer

A. The owner or operator of a facility subject to the continuance requirements under R18-9-105(A)(1), (A)(2), or (A)(3) shall notify the Department by certified mail within 15 days following a change of ownership. The notice shall include:

1. The name of the transferor owner or operator;
2. The name and social security number of the transferee owner or operator, if the transferee owner operator is an individual;
3. The name and location of the facility;
4. The written agreement between the existing and new permittee indicating a specific date for transfer of all permit responsibility, coverage, and liability;
5. A signed declaration by the new permittee that the permittee has reviewed the permit and agrees to be bound by its terms; and
6. The applicable fee established in 18 A.A.C. 14.

B. A permittee may transfer an individual permit to a new permittee if the Director amends the permit to identify the new permittee and holds the new permittee responsible for all conditions of the permit. The new permittee shall:

1. Notify the Department by certified mail within 15 days after the change of ownership of the transfer and include a written agreement between the existing and new permittee indicating a specific date for transfer of all permit responsibility, coverage, and liability;
2. Submit the applicable fee established in 18 A.A.C. 14;
3. Demonstrate the technical and financial capability necessary to fully carry out the terms of the permit according to R18-9-A202 and R18-9-A203;
4. Submit a signed statement by the new permittee that the permittee has reviewed the permit and agrees to be bound by its terms; and
5. Provide the Department with a copy of the Certificate of Disclosure required by A.R.S. § 49-109.

C. A permittee shall comply with the permit conditions specified under A.R.S. §§ 49-241 through 49-252, and Articles 1 and 2 of this Chapter, regardless of whether the permittee has sold or disposed of the facility, until the Director transfers the permit.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A213. Permit Suspension, Revocation, or Denial

A. The Director may suspend or revoke an individual permit or a continuance under R18-9-105(A)(1), (A)(2), or (A)(3) for any of the following:

1. A permittee failed to comply with any applicable provision of A.R.S. Title 49, Chapter 2, Article 3; Articles 1 and 2 of this Chapter; or any permit condition.

2. A permittee's misrepresentation or omission of any fact, information, or data related to an Aquifer Protection Permit application or permit conditions.
3. The Director determines that a permitted activity is causing or will cause a violation of any Aquifer Water Quality Standard at a point of compliance.
4. A permitted discharge is causing or will cause imminent and substantial endangerment to public health or the environment.

B. The Director may deny an individual permit if the Director determines upon completion of the application process that the applicant has:
1. Failed or refused to correct a deficiency in the permit application;
2. Failed to demonstrate that the facility and the operation will comply with the requirements of A.R.S. §§ 49-241 through 49-252 and Articles 1 and 2 of this Chapter. This determination shall be based on:
   a. The information submitted in the Aquifer Protection Permit application,
   b. Any information submitted to the Department following a public hearing, or
   c. Any relevant information that is developed or acquired by the Department.
3. Provided false or misleading information.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

PART B. BADCT FOR SEWAGE TREATMENT FACILITIES

R18-9-B201. General Considerations and Prohibitions

A. Applicability. The requirements in this Article, including BADCT requirements, apply to all sewage treatment facilities, including expansions of existing sewage treatment facilities, that treat wastewater containing sewage, unless the discharge is covered by a general permit under Article 3 of this Chapter.

B. The Director may specify alert levels, discharge limitations, design specifications, and operation and maintenance requirements in the permit that are based upon information provided by the applicant and that meet the requirements under A.R.S. § 49-243(B)(1).

C. The Director may specify adherence to an operation and maintenance plan as an Aquifer Protection Permit condition, based on consideration of the factors in A.R.S. § 49-243(B)(1).

D. A person shall not install or maintain a connection between any part of a sewage treatment facility and a potable water supply so that sewage or wastewater contaminates a potable or public water supply.

E. A person shall not bypass untreated sewage from a sewage treatment facility.

F. Reclaimed water dispensed to a direct reuse site from a sewage treatment facility is regulated under Reclaimed Water Quality Standards established under A.R.S. § 49-221(E) and reclaimed water permit requirements under A.R.S. § 49-203(A)(6).

G. The preparation, transport, or land application of any biosolid generated by a sewage treatment facility is regulated under 18 A.A.C. 13, Article 15.

H. The Department shall not publish a Notice of Preliminary Decision to issue an individual permit or amendment under R18-9-A211(B)(2)(b) or an amendment under R18-9-A211(B)(6) for a sewage treatment facility that is not in conformance with the Certified Areawide Water Quality Management Plan and the Facility Plan.

I. The owner or operator of a sewage treatment facility that is a new facility or undergoing a major modification shall provide setbacks from the nearest adjacent property line using the following information:

Sewage Treatment Facility Design Flow (gallons per day)	No Noise, Odor, or Aesthetic Controls (feet)	Full Noise, Odor, and Aesthetic Controls (feet)
3000 to less than 24,000	250	25
24,000 to less than 100,000	350	50
100,000 to less than 500,000	500	100
500,000 to less than 1,000,000	750	250
1,000,000 or greater	1000	350

1. Full noise, odor, and aesthetic controls means that all treatment components are fully enclosed, odor scrubbers are installed on all vents, and fencing aesthetically matched to that in the area surrounding the facility
2. The owner or operator may decrease setbacks if setback waivers are obtained from affected property owners in which the property owner acknowledges awareness of the established setbacks, basic design of the sewage treatment facility, and the potential for noise and odor.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-B202. Application Requirements

A. An applicant shall submit a design report sealed by an Arizona-registered professional engineer. The design report shall include the following information:
1. Wastewater characterization, including quantity, quality, seasonality, and impact of increased flows as the facility reaches design flow;
2. The proposed method of disposal, including solids management;
3. A description of the treatment unit processes and containment structures, including diagrams and calculations that demonstrate that the design meets BADCT requirements and will achieve treatment levels specified in R18-9-B204. If soil aquifer treatment or other aspects of site conditions are used to meet BADCT requirements, the applicant shall document performance of the site in the design report or the hydrogeologic report;
4. A description of planned normal operation;
5. A description of operation and maintenance, an operation and maintenance plan, and a description of contingency and emergency operation of the system;
6. A description of construction management controls;
7. A description of the system startup plan, including preoperational testing, expected treated wastewater characteristics and monitoring requirements during startup, expected time-frame for meeting performance requirements specified in R18-9-B204(C), and any other special startup condition that may merit consideration in the individual permit;
8. A site diagram depicting compliance with the setback requirements established in R18-9-B201(I);
9. For a sewage treatment facility with design flow under one million gallons per day, a design report and engineering plans and specifications. The Director may waive this requirement if the Director previously approved engineering plans and specifications submitted by the same owner or operator for a sewage treatment facility with design flow of more than one million gallons per day;

10. A certification by an Arizona-registered professional engineer that all other aspects of the design, including pipe coding, auxiliary power sources, and separation requirements, comply with applicable statutes, rules, and codes.

B. In addition to the technical and financial capability requirements specified in R18-9-A202 and R18-9-A203, the following requirements apply if construction or expansion of a private sewage treatment facility has been approved for treatment of sewage from a subdivision under R18-5-402. These requirements do not apply to a subdivision where each lot has an on-site wastewater treatment facility as defined in A.R.S. § 49-201 for sewage disposal:

1. If responsibility for operation of the private sewage treatment facility will be conveyed to a homeowner's association or a private operator after construction, the applicant shall demonstrate that the homeowner's association or private operator is technically capable of carrying out the terms of the permit and all treatment performance requirements specified in R18-9-B204.
2. If responsibility for operation of the private sewage treatment facility will be conveyed to a homeowner's association or a private operator after construction, the applicant shall demonstrate that the homeowner's association or private operator is financially capable of carrying out the terms of the permit and all treatment performance requirements specified in R18-9-B204, including monitoring, recordkeeping, and assuring that the system is under continuous operational control by the correct classification of a certified operator, as specified in 18 A.A.C. 5, Article 1.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-B203. Application Review and Approval

A. To ensure that BADCT requirements are met, the Department shall ask to review engineering plans and specifications for a sewage treatment facility with a design flow of one million gallons per day or greater if:

1. The design report required in R18-9-B202(A) fails to provide sufficient detail to determine adequacy of the proposed sewage treatment facility design;
2. The described design is innovative and does not reflect treatment technologies generally accepted as demonstrated within the industry;
3. The Department's calculations of removal efficiencies based on the design report show that the treatment facility cannot achieve BADCT performance requirements;
4. The design report does not demonstrate:
   a. Protection from physical damage due to a 100-year flood,
   b. Ability to continuously operate during a 25-year flood, or
   c. Provision for a standby power source.
5. The design report shows inconsistency in sizing or compatibility between two or more unit process components of the sewage treatment facility;
6. The designer of the facility has:
   a. Designed a sewage treatment facility of at least a similar size on less than three previous occasions,
   b. Designed a sewage treatment facility that has been the subject of a Director enforcement action due to the facility design, or
   c. Been found by the Board of Technical Registration to have violated a provision of A.R.S. Title 32, Chapter 1.
7. The permittee seeks to expand its sewage treatment facility and the Department believes that BADCT will require upgrades to the design that have not been described and evaluated in the design report.

B. The Department shall review engineering plans and specifications and a design report upon request by an applicant seeking a permit for a sewage treatment facility, regardless of its flow.

C. The Department may inspect an applicant's facility without notice to ensure that construction generally conforms to the design report.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-B204. Treatment Performance Requirements For New Facilities

A. An owner or operator of a new sewage treatment facility shall ensure that the facility meets the following performance requirements upon release of the treated wastewater at the outfall:

1. Secondary treatment levels.
   a. Five-day biochemical oxygen demand (BOD_5) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average), or carbonaceous biochemical oxygen demand ($CBOD_5$) less than 25 mg/l (30-day average) or 40 mg/l (seven-day average);
   b. Total suspended solids (TSS) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average);
   c. pH maintained between 6.0 and 9.0 standard units; and
   d. A removal efficiency of 85% for BOD_5 $CBOD_5$ and TSS.
2. Secondary treatment by waste stabilization ponds is not considered BADCT unless an applicant demonstrates to the Department that site-specific hydrologic and geologic characteristics and other environmental factors are sufficient to justify use of ponds or this method of treatment.
3. Total nitrogen in the treated wastewater is less than 10 mg/l (five-month rolling geometric mean). If an applicant demonstrates, using appropriate monitoring that soil aquifer treatment will produce a total nitrogen concentration of less than 10 mg/l in wastewater that percolates to groundwater, the Department may approve soil aquifer treatment for removal of total nitrogen as an alternative to meeting the performance requirement of 10 mg/l at the outfall.
4. Pathogen removal.
   a. A sewage treatment facility with a design flow of less than 250,000 gallons per day. A fecal coliform limit of 200 colony forming units per 100 ml (seven-sample median) and 800 colony forming units per 100 ml (single sample maximum) applies if:
      i. Depth to the seasonally high groundwater table is greater than 20 feet, and
      ii. The system is not located above karstic or fractured bedrock.
   b. Any other sewage treatment facility. A fecal coliform limit, using the membrane filter technique, of 2.2 colony forming units per 100 ml (seven-sample median) and less than 23 colony forming units per 100 ml (single sample maximum), or equivalent numbers using the multiple tube fermentation method, applies. Unit treatment processes, such as

chlorination-dechlorination, ultraviolet, and ozone may be used to achieve this standard.

c. The Department may approve soil aquifer treatment for the removal of fecal coliform as an alternative to meeting the performance requirement in subsection (B)(4)(b), if the soil aquifer treatment process will produce a fecal coliform concentration less than that required under subsection (B)(4)(b) in wastewater that percolates to groundwater.

5. Unless governed by A.R.S. § 49-243(I), the performance requirement for each constituent regulated under R18-11-406(B) through (E) is the numeric Aquifer Water Quality Standard.

6. The performance requirement for a constituent regulated under A.R.S. § 49-243(I) is removal to the greatest extent practical regardless of cost.

a. An operator shall minimize trihalomethane compounds generated as disinfection byproducts using chlorination, dechlorination, ultraviolet, or ozone as the disinfection system or using a technology demonstrated to have equivalent or better performance for removing or preventing triahalomethane compounds.

b. For other pollutants regulated by A.R.S. § 49-243(I), an operator shall use one of the following methods to achieve industrial pretreatment:

i. Regulate industrial sources of influent to the sewage treatment facility by setting limits on pollutant concentrations, monitoring for pollutants, and enforcing the limits to reduce, eliminate, or alter the nature of a pollutant before release into a sewage collection system; or

ii. Meet the pretreatment requirements of Section 307 of the Federal Water Pollution Control Act; or

iii. For sewage treatment facilities without significant industrial input, conduct periodic monitoring to detect industrial discharge.

7. A maximum seepage rate less than 550 gallons per day per acre for all containment structures within the treatment works. A sewage treatment facility that consists solely of containment structures with no other form of discharge complies with this Part by operating below the maximum 550 gallon per day per acre seepage rate.

B. The Director shall incorporate treated wastewater discharge limitations and associated monitoring specified in this Section into the individual permit to ensure compliance with the BADCT requirements.

C. An applicant shall formally request and justify an alternative that allows less stringent performance than that established in this Section, based on the criteria specified in A.R.S. § 49-243(B)(1), including in the justification a consideration of site-specific hydrologic and geologic characteristics and other environmental factors, facility size, method of wastewater disposal or direct reuse, proportion of sewage to total industrial wastewater volume, and the seasonality of the service area for the sewage treatment facility. If a request involves treatment or disposal works that are a demonstration, experimental, or pilot project, the Department shall take into account the factors and may issue an individual permit that places greater reliance on monitoring to ensure operational capability.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-B205. Treatment Performance Requirements for Existing Facility

For an existing sewage treatment facility, the BADCT shall conform with the following:

1. The designer shall identify one or more design improvements that brings the facility closer to or within the treatment performance requirements specified in R18-9-B204, considering the factors listed in A.R.S. § 49-243(B)(1)(a) and (B)(1)(c) through (B)(1)(h),
2. The designer may eliminate from consideration alternatives identified in subsection (1) that are more expensive than the number of gallons of design flow times $0.05 per gallon, and
3. The designer shall select as the BADCT for the facility a design that incorporates one or more of the considered alternatives by giving preference to measures that will provide the greatest improvement toward meeting the treatment performance requirements specified in R18-9-B204.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-B206. Treatment Performance Requirements for Expansion of a Permitted Facility

For an expansion of a sewage treatment facility with a current individual permit, the BADCT shall conform with the following:

1. New facility BADCT requirements of R18-9-B204:
   a. Continue to apply for the part of the facility that conformed to the BADCT requirements for a new facility at the last permit issuance;
   b. Apply to the addition of a process or major piece of production equipment, building, or structure that is physically separate from a facility and causes discharge; and
   c. Apply to the part of the facility that has not been required to conform to BADCT requirements for new facilities, if a facility or part of a facility has undergone or will undergo any change identified in R18-9-A211(B)(2).
2. BADCT requirements for existing facilities established in R18-9-B205 apply to expansions not covered by subsections (1)(a), (1)(b), or (1)(c).

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended to correct a manifest typographical error in subsection (1) (Supp. 01-1).

ARTICLE 3. AQUIFER PROTECTION PERMITS - GENERAL PERMITS

PART A. GENERAL PROVISIONS

R18-9-A301. Discharging Under a General Permit

A. Discharging Requirements.

1. Type 1 General Permit. A person may discharge under a Type 1 General Permit without submitting a Notice of Intent to Discharge if the discharge is authorized by and meets:
   a. The requirements of Article 3, Part A of this Chapter; and
   b. The specific terms of the applicable Type 1 General Permit, established in Article 3, Part B of this Chapter.

2. Type 2 General Permit. A person may discharge under a Type 2 General Permit if:
   a. The discharge is authorized by and meets the requirements of Article 3, Part A of this Chapter and the specific terms of the applicable Type 2 General Permit established in Article 3, Part C of this Chapter;
   b. The person files a Notice of Intent to Discharge under subsection (B); and
   c. The person submits the applicable fee established in 18 A.A.C. 14.
3. Type 3 General Permit. A person may discharge under a Type 3 General Permit if:
   a. The discharge is authorized by and meets the requirements of Article 3, Part A of this Chapter and the specific terms of the applicable Type 3 General Permit established in Article 3, Part D of this Chapter; and
   b. The person files a Notice of Intent to Discharge under subsection (B);
   c. The person satisfies any deficiency requests from the Department regarding the administrative completeness review and substantive review and receives a written Verification of General Permit Conformance from the Director; and
   d. The person submits the applicable fee established in 18 A.A.C. 14.
4. Type 4 General Permit. A person may discharge under a Type 4 General Permit if:
   a. The discharge is authorized by and meets the requirements of Article 3, Part A of this Chapter and the specific terms of the applicable Type 4 General Permit, established in Article 3, Part E of this Chapter;
   b. The person files a Notice of Intent to Discharge under subsection (B);
   c. The person satisfies any deficiency requests from the Department regarding the administrative completeness review and substantive review, including deficiencies relating to the construction of the facility, and receives a written Verification of General Permit Conformance from the Director; and
   d. The person submits the applicable fee established in 18 A.A.C. 14.

B. Notice of Intent to Discharge.
1. A person seeking a general permit under subsections (A)(2), (A)(3), or (A)(4) shall submit, by certified mail, in person, or by another method approved by the Department, a Notice of Intent to Discharge on a form provided by the Department.
2. The Notice of Intent to Discharge shall include:
   a. The name, address, and telephone number of the applicant;
   b. The social security number of the applicant, if the applicant is an individual;
   c. The name, address, and telephone number of a contact person familiar with the operation of the facility;
   d. The name, position, address, and telephone number of the owner or operator of the facility who has overall responsibility for compliance with the permit;
   e. The legal description of the discharge areas, including the latitude and longitude coordinates;
   f. A narrative description of the facility or project, including expected dates of operation, rate, and volume of discharge;
   g. The information required for the general permit;
   h. A listing of any other federal or state environmental permits issued for or needed by the facility, including any individual permit, Groundwater Quality Protection Permit, or Notice of Disposal that may have previously authorized the discharge; and
   i. A signature on the Notice of Intent to Discharge certifying that the permittee agrees to comply with all requirements of this Article, including specific terms of the applicable general permit.
3. Receipt of a completed Notice of Intent to Discharge by the Department begins the administrative completeness review.

C. Type 3 General Permit review.
1. Inspection. The Department may inspect the facility to determine that the applicable terms of the general permit have been met.
2. Verification issuance.
   a. If the Department determines, based on its review and an inspection, if conducted, that the facility conforms with the requirements of the general permit and the applicable requirements of this Article the Director shall issue a Verification of General Permit Conformance.
   b. The Verification of General Permit Conformance authorizes the person to discharge under terms of the general permit and applicable requirements of this Article.
3. Verification denial. If the Department determines, based on its review and an inspection, if conducted, that the discharge does not conform to the requirements of the general permit or other applicable requirements of this Article, the Director shall notify the person of its decision not to issue the Verification of General Permit Conformance and the person shall not discharge under the general permit. The notification shall inform the person of:
   a. The reason for the denial with reference to the statute or rule on which the denial is based;
   b. The person's right to appeal the denial, including the number of days the applicant has to file a protest challenging the denial and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
   c. The person's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

D. Type 4 General Permit review.
1. Pre-construction phase and facility construction.
   a. Inspection. The Department may inspect the facility site before construction to determine that the applicable terms of the general permit will be met.
   b. Review. If the Department determines, based on its review of, design plans, specifications, or other required documents, or an inspection, that the facility does not conform with the requirements of the general permit or other applicable requirements of this Article, the Department shall make a written request for additional information.
   c. Notification of provisional verification. If the Department determines, based on the review described in subsection (D)(1)(b) and any additional information submitted in response to a written request, that the facility design conforms with the requirements of the general permit and other applicable requirements of this Article, the Director shall provide a notification of Provisional Verification of

General Permit Conformance to the person seeking to discharge.

d. Notification of failure to conform to general permit requirements. If the Department determines, based on the review described in subsection (D)(1)(b) and any additional information submitted in response to a written request, that the facility design does not conform to the terms of the general permit and other applicable requirements of this Article, the Director shall notify the person seeking to discharge of its decision not to issue a Verification of General Permit Conformance. The notification shall follow the requirements of subsection (D)(2)(d).

e. Construction.
   i. The person seeking to discharge shall not begin facility construction until the Director provides notification of Provisional Verification of General Permit Conformance.
   ii. The person seeking verification to discharge may take up to two years to complete construction.
   iii. Construction shall conform with the plans and documents verified by the Department under subsection (D)(1)(b). A change in location, configuration, dimension, depth, material, or installation procedure does not require approval by the Department if the change continues to conform with the specific standard in this Article used as the basis for the original design.
   iv. All changes made during construction, including any changes approved under R18-9-A312(G), shall be recorded on the site plan as specified in R18-9-A309(C)(1) or on applicable documents as specified in R18-9-A309(C)(2), as applicable.

f. Completion of construction.
   i. After completing construction of the facility, the person seeking to discharge shall submit to the Department the applicable verification documents specified in R18-9-A309(C). Receipt of the documents by the Department initiates the post-construction review phase.
   ii. If the Department receives no verification documents by the end of the two-year construction period, the Notice of Intent to Discharge expires, and the person shall not continue construction or discharge.
   iii. If the Notice of Intent to Discharge expires, the person shall submit a new Notice of Intent to Discharge under subsection (B) to begin or continue construction.

2. Post-construction phase.
   a. Inspection. The Department may inspect the facility before issuing a Verification of General Permit Conformance to determine that:
      i. The construction conforms with the design verified by the Department under subsection (D)(2)(c) and any changes recorded on the site plan as specified by R18-9-A309(C)(1) or other documents as specified by R18-9-A309(C)(2), as applicable;
      ii. Terms of the general permit and applicable terms of this Article will be met.
   b. Deficiencies. If the Department identifies deficiencies in the constructed facility or in documents submitted in fulfillment of the Verification of General Permit Conformance, the Director shall provide a written explanation of the deficiencies to the person.
   c. Verification of General Permit Conformance.
      i. Upon satisfactory completion of construction and documents required under R18-9-A309(C)(1) or R18-9-A309(C)(2), as applicable, the Director shall issue a Verification of General Permit Conformance.
      ii. The Verification of General Permit Conformance authorizes the person to discharge under terms of the general permit and applicable requirements of this Article.
   d. Verification denial. If, after receiving evidence of correction submitted by the person seeking to discharge, the Department determines that the deficiencies are not satisfactorily corrected, the Director shall notify the person of the Director's decision not to issue the Verification of General Permit Conformance and the person shall not discharge under the general permit. The notification shall inform the person of:
      i. The reason for the denial with reference to the statute or rule on which the denial is based;
      ii. The person's right to appeal the denial, including the number of days the applicant has to file a protest challenging the denial and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
      iii. The person's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A302. Point of Compliance

The point of compliance is the point at which compliance with Aquifer Water Quality Standards is determined.

1. Except as provided in this Section or as stated in a specific general permit, the applicable point of compliance at a facility operating under a general permit is a vertical plane downgradient of the facility that extends through the uppermost aquifers underlying that facility.
2. The point of compliance is the limit of the pollutant management area.
   a. The pollutant management area is the horizontal plane of the area on which pollutants are or will be placed.
   b. If a facility operating under a general permit is located within a larger pollutant management area established under an individual permit issued to the same person, the point of compliance is the applicable point of compliance established in the individual permit.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A303. Permit Renewal

A. Unless a general permit is transferred, a facility is authorized to discharge under the general permit for the operational life of the facility, including any closure activities required by a specific general permit.

B. A permittee shall submit the application for renewal on a form provided by the Department with the applicable fee estab-

lished in 18 A.A.C. 14 at least 90 days before the end of the renewal period.

1. The following are the renewal periods for Type 2 General Permits and Type 3 General Permits:
   a. 2.01 General Permit, five years;
   b. 2.02 General Permit, seven years;
   c. 2.03 General Permit, two years;
   d. Type 3 General Permits, five years.
2. The renewal period for a Type 2 General Permit begins on the date of the Department's receipt of the Notice of Intent to Discharge.
3. The renewal period for a Type 3 General Permit begins on the date that the Director issues the written Verification of General Permit Conformance.

C. If the general permit is not renewed within the renewal period specified in subsection (B)(1), the general permit expires.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A304. Notice of Transfer

A. If a change of ownership occurs for a Type 2, Type 3, or Type 4 General Permit facility, the permittee shall provide a Notice of Transfer to the Department by certified mail within 15 days after the date that ownership changes. The Notice of Transfer shall include:
1. Any information that has changed from the original Notice of Intent to Discharge,
2. Any other transfer requirements specified for the general permit, and
3. The applicable fee established in 18 A.A.C. 14.

B. The Department may require a Type 2, Type 3, or Type 4 General Permit permittee to submit a new Notice of Intent to Discharge and to obtain new verifications under R18-9-A301(A)(3), and (A)(4), as applicable, if the volume or characteristics of the discharge have changed from the original application.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A305. Facility Expansion

A. A Type 2 General Permit facility may be expanded if, before the expansion, the permittee provides the Department with the following information by certified mail:
1. An updated Notice of Intent to Discharge,
2. A certification signed by the facility owner stating that the expansion continues to meet all the conditions of the applicable general permit, and
3. The applicable fee established under 18 A.A.C. 14.

B. A Type 3 or Type 4 General Permit facility may be expanded contingent on review and verification by the Department of a new Notice of Intent to Discharge.
1. The person submitting the Notice of Intent to Discharge for the expansion may reference the previous Notice of Intent to Discharge if the previous information is identical, but shall provide full and detailed information for any changed items.
2. The Notice of Intent to Discharge shall include:
   a. Any applicable fee established by 18 A.A.C. 14, and
   b. A certification signed by the facility owner stating that the expansion continues to meet all of the requirements relating to the applicable general permit.
3. Upon receiving the Notice of Intent to Discharge, the Department shall follow the applicable review and verification procedures described in R18-9-A301(A)(3) or (A)(4).

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A306. Closure

A. In addition to the closure requirements specified in a general permit, a permittee shall submit the closure plan specified under A.R.S. § 49-252.

B. The closure plan submitted under A.R.S. § 49-252 meets the clean closure requirement if the permittee:
1. Removes material that may contribute to a continued discharge; and
2. Eliminates, to the greatest degree practical, any reasonable probability of further discharge from the facility and of exceeding Aquifer Water Quality Standards at the applicable point of compliance.

C. For an on-site wastewater treatment facility or a 1.09 General Permit facility, a permittee shall comply with the requirements of R18-9-A309(D) to meet the requirements of this Section.

D. For a facility operating under a general permit and located at a site where an individual area-wide permit has been issued, a permittee may defer some or all closure activities required by this subsection if the Director approves the deferral in writing. The closure activities shall be performed no later than the closure activities identified in the individual area-wide permit.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A307. Permit Revocation

A. The Director shall revoke a general permit and require the permittee to obtain an individual permit for any of the following:
1. The permittee fails to comply with the terms of the general permit as described in this Article, or
2. The discharge activity conducted under the terms of a general permit causes or contributes to the violation of an Aquifer Water Quality Standard at the applicable point of compliance.

B. The Director shall revoke a general permit for any or all facilities within a specific geographic area, if, due to geologic or hydrologic conditions, the cumulative discharge of the facilities has violated or will violate an Aquifer Water Quality Standard established under A.R.S. §§ 49-221 and 49-223. Unless the public health or safety is jeopardized, the Director may allow continuation of a discharge for the revoked general permit until the Department:
1. Processes the application for a single individual permit, or
2. Consolidates the general permits and issues a single individual permit to a political subdivision that has jurisdiction over the specific geographic area.

C. Unless allowed under subsection (B), if the Director revokes a permit, the facility shall not discharge.

D. The Director shall notify a permittee by certified mail of its decision to revoke a general permit.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A308. Violations and Enforcement For On-site Wastewater Treatment Facilities

A. A person who owns or operates an on-site wastewater treatment facility contrary to the provisions of a Type 4 General

Permit is subject to the enforcement actions under A.R.S. § 49-261;

B. A person who violates this Article or a specific term of a general permit for an on-site wastewater treatment facility is subject to enforcement actions under A.R.S. § 49-261.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A309. General Provisions For Type 4 General Permits Concerning On-site Wastewater Treatment Systems

A. General requirements and prohibitions.
1. Sewage or wastewater that contains sewage shall not be discharged from an on-site wastewater treatment facility except under an Aquifer Protection Permit issued by the Director.
2. A person shall not install, allow to be installed, or maintain a connection between any part of an on-site wastewater treatment facility and a drinking water system or supply so that sewage or wastewater contaminates the drinking water.
3. A person shall not bypass untreated sewage from an on-site wastewater treatment facility.
4. A person shall not use a cesspool for sewage disposal.
5. The Department shall require connection to a sewage collection system if the connection is practical. A connection is practical if the distance to connect to the sewer is 400 feet or less and the total cost of the connection is less than $6000 if capacity is available and performance of the sewage collection system and receiving sewage treatment facility are not impaired.
6. The Department shall prohibit installation of an on-site wastewater treatment facility if the installation will create an unsanitary condition or environmental nuisance or cause or contribute to a violation of an Aquifer Water Quality Standard.
7. A permittee shall service or repair an operating on-site wastewater treatment facility, or install a replacement facility if the facility has created or if its use creates an unsanitary condition or environmental nuisance or has caused or causes a violation of an Aquifer Water Quality Standard.
8. A permittee shall operate the permitted on-site wastewater treatment facility so that:
   a. Flows to the facility consist of typical sewage and do not include any motor oil, gasoline, paint, varnish, solvent, pesticide, fertilizer, or other material not generally associated with toilet flushing, food preparation, laundry, and personal hygiene;
   b. Flows to the facility from commercial operations do not contain hazardous substances or hazardous wastes, as defined under A.R.S. § 49-921(5);
   c. A typical sewage flow with a component of flow from nonresidential food preparation or laundry service is adequately pretreated by an interceptor that complies with R18-9-A315 or another device authorized by a general permit or approved by the Department under R18-9-A312(G);
   d. Except as provided in subsection (A)(8)(c), a sewage flow that does not meet the numerical levels for typical sewage is adequately pretreated to meet the numerical levels before entry into an on-site wastewater treatment facility authorized by this Article;
   e. Flow to the facility does not exceed the design flow specified in the Verification of General Permit Conformance;
   f. Activities at the site do not adversely affect the operation of the facility.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the following information in a format approved by the Department:
1. A site investigation report that summarizes the results of the site investigation conducted under R18-9-A310(C), including:
   a. Results from any soil evaluation, percolation test, or seepage pit performance test; and
   b. Any limiting site conditions identified by the site investigation.
2. A site plan that includes:
   a. The parcel and lot number, if applicable, the property address or other appropriate legal description, the property size in acres, and the boundaries of the property on which the on-site wastewater treatment facility will be installed;
   b. A plan of the site drawn to scale, dimensioned, and with a north arrow that shows:
      i. Proposed and existing on-site wastewater treatment facilities; dwellings and other buildings; driveways, swimming pools, tennis courts, wells, ponds, and any other paved, concrete, or water feature; and cut banks, retaining walls, and any other constructed feature that affects proper location, design, construction, or operation of the facility;
      ii. Any feature less than 200 feet outside the property boundary that constrains the location of the on-site wastewater treatment facility because of setback limitations specified in R18-9-A312(C);
      iii. Topography, delineated with an appropriate contour interval, showing original and post-installation grades;
      iv. Location and identification of the treatment and disposal works and connecting pipelines, the reserve disposal area, and location and identification of all sites of percolation testing and soil evaluation performed under R18-9-A310; and
      v. Location of any public sewer if 400 feet or less from the property line.
   c. For improvements in areas in which occupancy of property may depend on installation of a drinking water well and an on-site wastewater treatment facility, the location of features within the boundaries of each adjoining undeveloped property if setback requirements may mutually constrain well, cut bank, and on-site wastewater treatment facility locations.
3. Design flow, sources of flow, and characteristics of the sewage. The applicant shall calculate the design flow from a list included with the site plan showing the applicable unit sewage flows into the on-site wastewater treatment facility. The applicant shall prepare this list based on Table 1, Unit Daily Design Flows and include the number of bedrooms and plumbing fixtures if the facility serves a residence.
4. Construction quality drawings that show the following:
   a. Systems, subsystems, and key components, including manufacturer's name, model number, and associated construction notes and inspection milestones, as applicable;

b. A title block, including facility owner, revision date, space for addition of the Department's application number, and page numbers;
c. A plan and profile with the elevations of treatment and disposal components, including calculations justifying the absorption area, to allow Department verification of hydraulic and performance characteristics;
d. Cross sections showing construction details and elevations of treatment and disposal components, original and finished grades of the land surface, seasonal high water table if less than 10 feet below the bottom of a disposal field or 60 feet below the bottom of a seepage pit, and a soil elevation evaluation to allow the Department to verify installation design and performance;
e. Drainage pattern, drainage controls, and erosion protection, as applicable, for the facility; and
f. Construction quality drawings are not required if the entire facility at the site, including treatment and disposal works, is permitted under R18-9-E302.

5. A list of materials, components, and equipment for constructing the on-site wastewater treatment facility. A list is not required if the entire facility at the site, including treatment and disposal works, is permitted under R18-9-E302.
6. An operation and maintenance plan required by R18-9-A313 for the on-site wastewater treatment facility. An operation and maintenance plan is not required if the entire facility at the site, including treatment and disposal works, is permitted under R18-9-E302.
7. Drawings, reports, and other information that are clear, reproducible, and in a size and format specified by the Department. An applicant may submit the drawings in an electronic format approved by the Department.

C. Additional verification of general permit conformance requirements.
1. If the entire on-site wastewater treatment facility at the site, including treatment and disposal works, is permitted under the 4.02 General Permit, the Director shall issue the Verification of General Permit Conformance only if the site plan accurately reflects the final location and configuration of the components of the treatment and disposal works.
2. If the facility is permitted under any 4.03 through 4.23 General Permit, either separately or in some combination of these permits or the 4.02 General Permit, the Director shall issue the Verification of General Permit Conformance only if the following record documents have been submitted:
   a. As-built plans;
   b. A final list of equipment and materials, if different from the list specified in subsection (B)(5);
   c. A final operation and maintenance plan;
   d. Other documents, if required by the separate general permits; and
   e. A Certificate of Completion signed by the person responsible for assuring that installation of the facility conforms with the design approved under the Provisional Verification of General Permit Conformance.
3. The Director shall specify in the Verification of General Permit Conformance:
   a. The permitted design flow of the facility,
   b. The characteristics of the wastewater sources contributing to the facility, and
   c. A list of the record documents accepted by the Department satisfying subsection (C)(2).

D. Closure requirements. A permittee who permanently discontinues use of, wishes to close an on-site wastewater treatment facility, or is ordered by the Director to close an abandoned facility shall:
1. Remove all sewage from the facility and dispose of the sewage in a lawful manner;
2. Disconnect and remove electrical and mechanical components;
3. Remove or collapse the top of any tank or containment structure;
   a. Fill the tank or containment structure or any cavity resulting from its removal with earth, sand, gravel, concrete, or other approved material; and
   b. Regrade the surface to provide positive drainage.
4. Cut and plug both ends of the abandoned sewer drain pipe between the building and the on-site wastewater treatment facility not more than five feet outside the building foundation if practical, or cut and plug as close to each end as possible; and
5. Notify the applicable county health or environmental department within 30 days of closure.

E. Proprietary and other reviewed products.
1. The Department shall maintain a list of proprietary and other reviewed products that may be used for on-site wastewater treatment facilities to comply with the requirements of this Article. The list shall include appropriate information on the applicability and limitations of each product.
2. The list of proprietary and other reviewed products may include manufactured systems, subsystems, or components within the treatment works and disposal works if the products significantly contribute to the treatment performance of the system or provide the means to overcome site limitations. The Department shall not list components that do not significantly affect treatment performance or provide the means to overcome site limitations.
3. A person may request that the Department add a product to the list of proprietary and other reviewed products. The request may include a proposed reference design for review. The Department may assess fees for product review.
4. The Director may contract for services in administering this subsection.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A310. Site Investigation For On-site Wastewater Treatment Facilities

A. Definition. For purposes of this Section, "clean water" means water free of colloidal material or additives that could affect chemical or physical properties if the water is used for percolation testing or testing of seepage pit performance.

B. The investigator shall perform a site investigation if an on-site wastewater treatment facility is proposed for installation. The applicant shall submit the following information in a format prescribed by the Department and shall provide sufficient data to:
1. Determine if any of the following limiting conditions exist:
   a. The soil absorption rate determined by the requirements of this Article is more than 1.20 gallons per square foot per day;

b. The soil absorption rate determined by the requirements of this Article is less than 0.13 gallons per square foot per day;
c. The vertical separation distance from the bottom of the lowest point of the disposal system to the seasonal high water table is less than the minimum vertical separation specified by R18-9-A312(E), or seasonal saturation at the surface occurs;
d. The surface slope is greater than 15% at the intended location of the on-site wastewater treatment facility;
e. Minimum setback distances are not within acceptable limits as specified in R18-9-A312(C);
f. The vertical separation distance from the bottom of the lowest point of the disposal system to a subsurface condition that will cause surfacing of wastewater at the design flow rate or provide a direct conduit to the aquifer is less than the minimum vertical separation specified by R18-9-A312(E);
g. Surface drainage characteristics at the intended location of the on-site wastewater treatment facility will adversely affect the ability of the facility to function properly; or
h. The vertical separation distance from the bottom of the lowest point of the disposal system to a subsurface condition that will convey wastewater to a water of the state to cause or contribute to a violation of an Aquifer Water Quality Standard established under A.R.S. Title 49, Chapter 2, Article 2 is less than the minimum vertical separation specified under R18-9-A312(E).

2. Allow selection of an appropriate on-site wastewater treatment facility for the site considering all limiting conditions that exist;
3. Effectively locate, design, and install a properly operating on-site wastewater treatment facility to serve the anticipated development at the site, whether or not limiting conditions exist.

C. The site investigation shall include the determination of soil characteristics using one or more of the following methods:

1. "Standard Practice for Surface Site Characterization for On-site Septic Systems" published by the American Society for Testing and Materials, (D 5879-95^{E1}), approved December 10, 1995;
2. "Standard Practice for Subsurface Site Characterization of Test Pits for On-Site Septic Systems," published by the American Society for Testing and Materials, (D 5921-96^{E1}), approved February 10, 1996;
3. "Standard Practice for Soil Investigation and Sampling by Auger Borings," published by the American Society for Testing and Materials, (D 1452-80), reapproved 1995, if the depth to groundwater may be within the required minimum vertical separation from the bottom of the disposal field.
   a. The information listed in subsections (C)(1), (C)(2), and (C)(3) is incorporated by reference and does not include any later amendments or editions of the incorporated matter.
   b. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959.
4. Percolation testing as specified in subsection (E);
5. Seepage pit performance testing as specified in subsection (F);
6. Other methods of soil evaluation, as approved by the Department, that ensure compliance with Aquifer Water Quality Standards through proper system location, selection, design, installation, and operation.

D. Applicability of soil characterization methods.

1. For a seepage pit constructed under the 4.02 General Permit, the investigator shall test seepage pit performance using the procedure specified in subsection (F).
2. Soil characterization using one or more of the American Society for Testing and Materials methods specified in subsections (C)(1), (C)(2), and (C)(3) shall be used if one or more of the following site conditions exists:
   a. The natural surface slope at the intended location of the on-site wastewater treatment facility, including the disposal field reserve area, is greater than 15%;
   b. Bedrock, or similar consolidated rock formation that cannot be excavated with a shovel, outcrops from the lot or is known to exist less than 10 feet below the land surface;
   c. The native soil at the surface or encountered in a boring, trench, or hole consists of more than 35% rock fragments greater than three inches across;
   d. The seasonal high water table is known to occur within 10 feet of the natural land surface or seasonal saturation at the natural land surface occurs as indicated by soil mottling, vegetation adapted to near-surface saturated soils, nearby springs, seeps, or surface water bodies, or well records that indicate high water table conditions beneath the intended location; or
   e. A percolation test yields results outside the limits specified in subsection (B)(1)(a) and (B)(1)(b).
3. Percolation testing as specified in subsection (C)(4) or another method of soil evaluation approved by the Department under subsection (C)(6) may be used to augment soil characterization specified in subsection (D)(2) if useful to locate or design an on-site wastewater treatment facility.
4. Percolation testing as specified in subsection (C)(4) or another method of soil evaluation approved by the Department under subsection (C)(6) shall be used as the sole method of soil characterization if a soil characterization method specified in subsection (D)(2) is not required.
5. Unless testing under subsection (C)(5) is required, the Department shall accept a soil characterization method specified in subsection (D)(2) as the sole soil characterization method.

E. Percolation testing.

1. Planning and Preparation. The investigator shall:
   a. Select a sufficient number of sites for percolation testing to provide adequate and credible information to ensure proper location, selection, design, and installation of a properly working on-site wastewater treatment facility and reserve drainfield. At least two sites shall be selected, one in the primary disposal area and one in the reserve disposal area;
   b. Perform percolation testing at each site at appropriate depths within the soil profile to establish the absorption capability of the soil in the primary and reserve disposal areas and to help determine the vertical separation necessary to achieve effective wastewater treatment in the zone of unsaturated flow below the drainfield system. The investigator shall perform percolation tests at multiple depths if there is an indication of an obvious change in soil charac-

teristics that appreciably affect the location, selection, design, installation, or disposal performance of the on-site wastewater treatment facility. The bottom of the percolation test hole is the reference elevation and depth for recordkeeping;

c. Excavate percolation test holes in undisturbed soil at least 12 inches deep with a cross section of 12 inches square, if square, or a diameter of 15 inches, if round. The investigator shall not alter the structure of the soil during the excavation;

d. Place percolation test holes away from site or soil features that yield unrepresentative or misleading data pertaining to the location, selection, design, installation, or performance of the on-site wastewater treatment facility;

e. Scarify smeared soil surfaces within the percolation test holes and remove any loosened materials from the bottom of the hole; and

f. Use buckets with holes in the sides to support the sidewalls of the percolation test hole, if necessary. Any voids between the walls of the hole and the bucket shall be filled with pea gravel to reduce the impact of the enlarged hole.

2. Presoaking procedure. The investigator shall:

a. Fill the percolation test hole to a depth of 12 inches above the bottom of the hole with clean water;

b. Observe the decline of the water level in the hole and record time in minutes for the water to completely drain away;

c. Repeat the steps specified in subsection (E)(2)(a) and (E)(2)(b) if the water drains away in less than 60 minutes. If the water drains away the second time in less than 60 minutes, the inspector shall repeat the steps specified in subsections (E)(2)(a) and (E)(2)(b) again. If the water drains away again in less than 60 minutes, the percolation test shall be performed following subsection (E)(3); and

d. Add clean water to the hole after 60 minutes and maintain the water at a minimum depth of nine inches for at least four more hours if the water drains away in 60 minutes or greater. The inspector shall protect the hole from precipitation and runoff, and the percolation test specified in subsection (E)(3) shall be performed between 16 and 24 hours after presoaking.

3. Conducting the test. The investigator shall:

a. Conduct the percolation test before soil hydraulic conditions established by the presoaking procedure substantially change. Any loose materials in the percolation test hole shall be removed to ensure that the specified dimensions of the hole are maintained and the infiltration surfaces are undisturbed native soil;

b. Fill the test hole to a depth of six inches above the bottom with clean water;

c. Observe the decline of the water level in the percolation test hole and determine and record the time in minutes for the water level to fall exactly one inch from a fixed reference point. The investigator shall immediately refill the hole with clean water to a depth of six inches above the bottom, and shall determine and record the time in minutes for the water level to fall exactly one inch. The hole again shall be immediately refilled with clean water to a depth of six inches above the bottom and the time for the water to fall exactly one inch shall be determined and recorded. The investigator shall ensure that the method for measuring water level depth is accurate and does not significantly affect the percolation rate of the test hole;

d. Use the stabilized percolation rate as the basis for design if, when three consecutive measurements vary by no more than 10%. If three consecutive measurements indicate that the percolation rate results are not stabilizing or the percolation rate is between 60 and 120 minutes per inch, an alternate method based on a graphical solution of the test data shall be used to approximate the stabilized percolation rate; and

e. Record the percolation rate results in minutes per inch. The submittal of percolation test results to the Department shall include a log of the soil formations encountered; the percent of rock fragments; the texture, structure, consistence, mottles, and depth to groundwater; whether and which test hole was reinforced with a bucket; and locations and depths or elevations of the percolation test holes on the site investigation map.

F. Seepage pit performance testing. An investigator shall test seepage pits described in R18-9-E302 as follows:

1. Planning and Preparation. The investigator shall:

a. Identify primary and reserve disposal areas at the site. A test hole at least 18 inches in diameter shall be drilled in the primary disposal area to the depth of the bottom of the proposed seepage pit, at least 30 feet deep;

b. Scarify soil surfaces within the test hole and remove loosened materials from the bottom of the hole.

2. Presoaking procedure. The investigator shall:

a. Fill the bottom six inches of the test hole with gravel, if necessary, to prevent scouring;

b. Fill the test hole with clean water up to three feet below the land surface;

c. Observe the decline of the water level in the hole and determine the time in hours and minutes for the water to completely drain away;

d. Repeat the procedure if the water drains away in less than four hours; If the water drains away the second time in less than four hours, then the seepage pit performance test shall be conducted following subsection (F)(3);

e. Add water to the hole and maintain the water at a depth that leaves at least the top three feet of hole exposed to air for at least four more hours if the water drains away in four or more hours;

f. Not remove the water from the hole before the seepage pit performance test if there is standing water in the hole after at least 16 hours of presoaking.

3. Conducting the test. The investigator shall:

a. Fill the test hole with clean water up to three feet below land surface;

b. Observe the decline of the water level in the hole and determine and record the vertical distance to the water level from a fixed reference point every 10 minutes; The investigator shall ensure that the method for measuring water level depth is accurate and does not significantly affect the rate of fall of the water level in the test hole;

c. Measure the decline of the water level continually until three consecutive 10-minute measurements indicate that the infiltration rates are within 10%. If measurements indicate that infiltration is not approaching a steady rate or if the rate is close to a

numerical limit specified in R18-9-A312(E), an alternate method based on a graphical solution of the test data shall be used to approximate the final stabilized infiltration rate;

d. Submit the seepage pit performance test results to the Department, including:
   i. Data, calculations, and findings on a form provided by the Department;
   ii. The log of the test hole indicating lithologic characteristics and points of change; and
   iii. The location of the test hole on the site investigation map.

e. Fill the test hole so that groundwater quality and public safety are not compromised if the seepage pit is drilled elsewhere or if a seepage pit cannot be sited at the location because of unfavorable test results.

G. Soil evaluation procedures. If one or more of the soil evaluation procedures specified by subsection (C)(1), (C)(2), or (C)(3) are used, the following rules apply and the investigator shall:

1. Ensure that the number of test locations selected for soil evaluation are sufficient to provide adequate and credible information to ensure proper location, selection, design, and installation of a properly working on-site wastewater treatment facility and reserve drainfield. The investigator shall select at least two test locations, one in the primary disposal area and one in the reserve disposal area;
2. Perform a soil evaluation at each test location at appropriate depths within the soil profile to establish the capability of the soil in the primary and reserve disposal areas to absorb wastewater, and determine the vertical separation necessary to achieve effective wastewater treatment in the zone of unsaturated flow below the drainfield system;
3. Not conduct soil evaluations near site or soil features that yield unrepresentative or misleading data relating to the location, selection, design, installation, or performance of the on-site wastewater treatment facility;
4. Include the following in a soil evaluation:
   a. A log of soil formations for each test location with information on soil type, texture, and classification; percentage of rock; structure; consistence; and mottles;
   b. A determination of depth to ground water below the land surface by test holes, published groundwater data, subdivision reports, or relevant well data; and
   c. A determination of the water absorption characteristics of the soil, under R18-9-A312(D)(2)(b), sufficient to allow location and design of the on-site wastewater treatment facility.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A311. Facility Selection For On-site Wastewater Treatment Facilities

A. A person seeking to install an on-site wastewater treatment facility described in R18-9-E302 may install the facility if the site investigation conducted under R18-9-A310 indicates that none of the limiting site conditions described in R18-9-A310(B) exist at the site, except as provided in subsection (C).

1. A seepage pit may be installed only in valley-fill sediments in a basin-and-range alluvial basin and only if the seepage pit performance test results meet the criteria specified in R18-9-A312(E).
2. The Notice of Intent to Discharge shall specify that none of the limiting site conditions described in R18-9-A310(B) were identified at the site.

B. The on-site wastewater treatment facility for the site shall be selected, designed, and installed to overcome the identified site limitations.

1. On-site treatment and disposal systems and technologies covered by Type 4 General Permits may be used alone or in combination to overcome the site limitations.
2. An applicant may submit a single Notice of Intent to Discharge for a system consisting of components or technologies covered by multiple general permits if the information submittal requirements of all the general permits are met.
3. The Director shall, except in unusual circumstances, issue a single Provisional Verification of General Permit Conformance established under R18-9-A301(D)(2) for the on-site wastewater treatment facility.

C. A person seeking to install an on-site wastewater treatment facility shall select a facility that is appropriate for the site's geographic location, setback limitations, slope, topography, soil classification, wastewater infiltration capability, and depth to seasonally high groundwater table or other limiting subsurface condition. An on-site wastewater treatment facility described in R18-9-E302 shall not be used by itself at a site where limiting site conditions are identified, except the Department shall review and may approve a facility based on the procedures and conditions under R18-9-A312(G) if no more than one of the limiting site conditions specified by R18-9-A310(B)(1)(a), (B)(1)(b) or (B)(1)(d) exists.

D. If an on-site wastewater treatment facility, described in R18-9-E302, is suitable for a site and no limiting site conditions prevent its proper installation and operation, the Department shall not approve a system other than that described in R18-9-E302, unless the applicant supplies a statement with the Notice of Intent to Discharge justifying the use of a system not authorized under R18-9-E302.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A312. Facility Design For On-site Wastewater Treatment Facilities

A. General design requirements. A person designing the on-site wastewater treatment facility shall:

1. Sign design documents submitted as part of the Notice of Intent to Discharge or subsequently to obtain a Provisional Verification of General Permit Conformance, including plans, specifications, drawings, reports, and calculations; and
2. Locate and design the on-site wastewater treatment facility project using good design judgement and rely on appropriate design methods and calculations.

B. Design considerations and flow determination. A person designing the facility shall:

1. Design the facility to satisfy a 20 year operational life;
2. Design the facility based on design flow:
   a. General Permits 4.02 through 4.22 apply only to facilities with a design flow of less than 3000 gallons per day.
   b. General Permit 4.23 applies only to facilities with a design flow of 3000 gallons per day to less than 24,000 gallons per day;
3. Use Table 1, Unit Daily Design Flows, to determine design flow;

4. Apply the following design requirements to on-site wastewater treatment facilities permitted under R18-9-E303 through R18-9-E323, as applicable:
   a. Include the power source and power components in construction drawings if electricity or another type of power is necessary for facility operation;
   b. Perform a linear loading rate analysis for subsurface wastewater flow if the site investigation indicates that an impermeable layer or seasonal high water table exists less than 10 feet below the bottom of the disposal works;
   c. Design components, piping, ports, seals, and appurtenances to withstand installation loads, internal and external operational loads, and buoyant forces. Ports shall be designed for firmness of position, and openings shall be capped or covered for protection;
   d. Design tanks, liners, ports, seals, piping, and appurtenances for watertightness under all operational conditions;
   e. Provide adequate storage capacity above high operating level to:
      i. Accommodate a 24-hour power or pump outage, and
      ii. Contain wastewater that is incompletely treated or cannot be released by the disposal works to the native soil.
   f. If a fixed media process is used, include the media material, installation specification, bed configuration, and wastewater loading rate at the daily design flow in construction drawings; and
   g. Provide a fail-safe wastewater control mechanism, if required by the general permit, for total containment of incompletely treated wastewater.

C. Setbacks. The following setbacks apply unless the Department has authorized a different setback under the procedure specified in subsection (G), or has established a more stringent setback on a site- or area-specific basis to ensure compliance with water quality standards.

Feature of Potential Impact	Setback Distance (feet)	
	Septic Tank	Disposal Trench, Bed, or Seepage Pit
Building (1)	10	10
Property line shared with adjoining land **not served** by a common drinking water system or an existing well (2)	50	50
All other property lines	5	5
Water supply well (public or private)	100	100
Perennial or intermittent stream (3)	100	100
Lake or reservoir (4)	100	100
Drinking water intake from a surface water source (includes an open water body, downgrade spring or a well tapping streamside saturated alluvium)	200	200
Drainage easement or wash with drainage area more than five acres (5)	50	50
Water main or branch water line	10	10
Domestic service water line (6)	5	5
Downslope cut banks and culvert or roadway ditches (7)	15	15
Driveway (8)	5	5
Swimming pool (9)	5	5
Easement (except drainage easement)	5	5

Notes:
(1) Includes porches, decks, and steps (covered or uncovered), breezeways, roofed patios, carports, covered walks and driveways, and similar structures and appurtenances.
(2) A common drinking water system is a system that currently serves or is under legal obligation to serve the property and may include a drinking water utility, a well sharing agreement, or other viable water supply agreement. A setback may be reduced to a minimum of five feet from the property line if:
   a. The owners of any affected undeveloped adjacent properties agree by an appropriate written document to limit the location of any new well on their property to at least 100 feet from the proposed septic tank and primary and reserve disposal field areas; and
   b. The arrangements and documentation are approved by the Department.
(3) Measured from the limit of peak streamflow from a 10-year, 24-hour rainfall event.
(4) Measured from the high water line from a 10-year, 24-hour rainfall event at the lake or reservoir.
(5) Measured from the nearest edge of the defined natural channel bank or drainage easement whichever is less. A setback may be reduced to 25 feet if natural or constructed erosion protection is approved by the appropriate flood plain administrator.
(6) The water line separation from sewer lines shall be as follows:
   a. A water line crossing a sewer line at an angle of 45 to 90 degrees shall be one foot above the sewer line.
   b. A water line crossing a sewer line at an angle of less than 45 degrees is not allowed.
   c. A water line that is one to three feet from a sewer line but does not cross the sewer line shall be one foot above the sewer line and may be on a bench in the same trench or in a separate trench.
   d. A water line that is less than one foot from a sewer line but does not cross the sewer line is not allowed.
(7) Measured to the top of the cut bank or ditch or to the nearest sidewall of the culvert. The setback to a disposal trench, bed, or seepage pit is 15 feet or four times the elevation difference between the finished grade of the disposal trench, bed, or seepage pit and the elevation at the cut bank bottom, ditch bottom, or culvert invert, whichever is greater, up to 50 feet.
(8) Measured to the nearest edge of septic tank excavation. A properly reinforced septic tank and cover may be placed at any location relative to a driveway if access openings, risers, and covers carry the design load and are protected from inflow.
(9) A setback may be increased due to soil loading and stability concerns.

D. Soil absorption rate (SAR) and disposal field sizing.
1. If soil characterization and percolation test methods yield different SAR values or if multiple applications of the same approach yield different values, the designer of the

disposal field shall use the most conservative value unless a less conservative value is proposed and justified to the Department's satisfaction in the Notice of Intent to Discharge.

2. The maximum SAR used to calculate disposal field size for systems described in R18-9-E302 is as follows:
   a. The SAR by percolation testing as described in R18-9-A310(E)(3) for shallow and deep disposal fields is determined from the results of percolation tests:

Percolation Rate from Percolation Test (minutes per inch)	**SAR, Shallow Disposal Field (gal/day/ft^2)**	**SAR, Deep Disposal Field (gal/day/ft^2)**
Less than 1.00	See Note	See Note
1.00 to less than 3.00	1.20	0.93
3.00	1.10	0.73
4.00	1.00	0.67
5.00	0.90	0.60
7.00	0.75	0.50
10.0	0.63	0.42
15.0	0.50	0.33
20.0	0.44	0.29
25.0	0.40	0.27
30.0	0.36	0.24
35.0	0.33	0.22
40.0	0.31	0.21
45.0	0.29	0.20
50.0	0.28	0.19
55.0	0.27	0.18
55.0+ to 60.0	0.25	0.17
60.0+ to 120	0.20	0.13
Greater than 120	See Note	See Note

Note: A disposal field described in R18-9-E302 is not allowed unless approved by the Department under R18-9-A311(C).

   b. The maximum SAR for shallow and deep disposal fields using the soil evaluation method described in R18-9-A310(G) is determined by answering the questions in the following table. The questions are read in sequence starting with "A." The first "yes" answer determines the maximum SAR used to calculate disposal field size for systems described in R18-9-E302.

Sequence of Soil Characteristics Questions	SAR, Shallow Disposal Field System (gallons per day per square foot)	SAR, Deep Disposal Field System (gallons per day per square foot)
A. Is the horizon gravelly coarse sand or coarser?	See Note	See Note
B. Is the structure of the horizon moderate or strongly platy?	See Note	See Note
C. Is the texture of the horizon sandy clay loam, clay loam, silty clay loam, or finer and the soil structure weak platy?	See Note	See Note
D. Is the moist consistency stronger than firm or any cemented class?	See Note	See Note
E. Is the texture sandy clay, clay, or silty clay of high clay content and the structure massive or weak?	See Note	See Note
F. Is the texture sandy clay loam, clay loam, silty clay loam, or silty loam and the structure massive?	See Note	See Note
G. Is the texture of the horizon loam or sandy loam and the structure massive?	0.20	0.13
H. Is the texture sandy clay, clay or silty clay of low clay content and the structure moderate or strong?	0.20	0.13
I. Is the texture sandy clay loam, clay loam, or silty clay loam and the structure weak?	0.20	0.13
J. Is the texture sandy clay loam, clay loam, or silty clay loam and the structure moderate or strong?	0.40	0.27
K. Is the texture sandy loam, loam, or silty loam and the structure weak?	0.40	0.27
L. Is the texture sandy loam, silt loam and the structure moderate or strong?	0.60	0.40
M. Is the texture fine sand, very fine sand, loamy fine sand, or loamy very fine sand?	0.40	0.27
N. Is the texture loamy sand or sand?	0.80	0.53
O. Is the texture coarse sand?	1.20	See Note

Note: A disposal field described in R18-9-E302 is not allowed, unless approved by the Department under R18-9-A311(C) and an applicable SAR is provided.

c. For subsections (D)(2)(a) and (D)(2)(b), a shallow disposal field has a maximum depth below finished grade of five feet or less and a deep disposal field has a depth below finished grade of more than five feet.

3. For on-site wastewater treatment facilities described in a general permit other than R18-9-E302, the SAR is dependent on the ability of the facility to reduce the level of TSS and BOD_5 and is calculated using the following formula:

$$SAR_a = \left[\left(\frac{6.15}{\sqrt[3]{TSS + BOD_5}} - 1.01 \right) SAR^{1.28} + 1 \right] SAR$$

a. "SAR_a" is the adjusted soil absorption rate for disposal field design in gallons per day per square foot,
b. "TSS" is the total suspended solids in wastewater delivered to the disposal field in milligrams per liter,
c. "BOD_5" is the five-day biochemical oxygen demand of wastewater delivered to the disposal field in milligrams per liter, and
d. "SAR" is the soil absorption rate for septic tank wastewater determined by the percolation test or soil evaluation procedure described in R18-9-A310.

4. A person designing the facility shall ensure that the on-site wastewater treatment facility has a reserve disposal field with an area equivalent to at least 100% of the original disposal field determined by subsections (D)(1) through (D)(3) to allow installation of a reserve field if the original disposal field cannot absorb all of the wastewater. A person shall not impair the usefulness of the reserve area by division of the property, construction of structures, or improvements on the property.

E. Minimum vertical separation.

1. The minimum vertical separation from the bottom of the lowest point of the disposal system to the top of the nearest limiting subsurface condition described in R18-9-A310(B)(1)(c), (B)(1)(f), and (B)(1)(h) for on-site wastewater treatment facilities described in R18-9-E302, is dependent on the soil absorption rate and is determined as follows:

MAXIMUM SOIL ABSORPTION RATE (gallons per day per square foot)			MINIMUM VERTICAL SEPARATION (feet)	
Shallow Disposal Field	Deep Disposal Field	Seepage Pit	Shallow or Deep Disposal Field	Seepage Pit
1.20+	0.93+	1.20+	Not allowed for septic tank effluent	Not Allowed
0.63+ to 1.20	0.42 to 0.93	0.63+ to 1.20	10	60
0.20 to 0.63	0.13 to 0.42	0.36 to 0.63	5	25
Less than 0.20	Less than 0.13	Less than 0.36	Not allowed for septic tank effluent	Not Allowed

2. The allowable minimum vertical separation from the bottom of the constructed disposal field to the top of the nearest limiting subsurface condition is dependent on the ability of the facility to reduce the level of harmful microorganisms, expressed as total coliform in colony forming units per 100 milliliters (cfu/100 ml) delivered to native soil below the disposal works at least 95% of the time. A treatment works, disposal works, or a combination of these works that achieves a treatment level specified in the following table may be used to determine the corresponding minimum vertical separation:

Total Coliform Concentration, 95th Percentile, Delivered to Natural Soil by the Disposal System (Log_{10} of coliform concentration in cfu per 100 milliliters)	**Minimum Vertical Separation (feet)**	
	For SAR*, 0.20 to 0.63	**For SAR*, 0.63+ to 1.20**
8**	5	10
7	4	8
6	3.5	7
5	3	6
4	2.5	5
3	2	4
2	1.5	3
1	1	2
0***	0	0

* Soil absorption rate from percolation testing or soil characterization, in gallons per square foot per day.
** Nominal value for a standard septic tank and disposal field (10^8 colony forming units per 100 ml).
*** Nominally free of coliform bacteria.

3. To determine the minimum vertical separation, the nearest limiting subsurface condition means a property of the soil or a zone in the subsurface that critically restricts or critically and adversely accelerates downward percolation of wastewater. Limiting subsurface conditions may include, but are not limited to, the seasonal high water table capillary fringe, a substantially impermeable layer of soil or rock, fractured rock, or soil with greater than 50% rock fragments.

F. Materials and manufactured system components.
1. Materials. If no materials specifications are required under this Article, aggregate may be used in disposal trenches or for other uses in an on-site wastewater treatment facility.
2. Manufactured components.
   a. If manufactured components are used, the on-site wastewater treatment facility shall be designed, installed and operated following the manufacturer's specifications. The process described in subsection (G) shall be used to propose any deviation that is less stringent than the manufacturer's specifications.
   b. Treatment and containment components, mechanical equipment, instrumentation, and controls shall have monitoring, inspection, access and cleanout ports or covers, as appropriate, for monitoring and service.
   c. Treatment and containment components, pipe, fittings, pumps, and related components and controls shall be durable, watertight, structurally sound, and capable of withstanding stress from installation and operational service.
   d. Distribution lines for disposal fields shall be constructed of clay tile laid with open joints, perforated clay pipe, perforated high density polyethylene pipe, perforated ABS pipe, or perforated PVC pipe if the pipe is suitable for wastewater disposal use and sufficient openings are available for distribution of the wastewater into the trench or bed area.
3. Electronics components.
   a. Instructions and a wiring diagram shall be mounted on the inside of a control panel cover.
   b. The control panel shall be equipped with a multimode operation switch, red alarm light, buzzer, and reset button.
   c. The multimode operation switch shall operate in the automatic position for normal system operation.
   d. An anomalous condition shall be indicated by a glowing alarm light and sounding buzzer. The continued glowing of the alarm light after pressing the reset button shall signal the need for maintenance or repair of the system at the earliest practical opportunity.

G. Alternative design, installation, or operational features. When a person submits a Notice of Intent to Discharge, the person may request that the Department review and approve a feature of improved or alternative technology, design, setback, installation, or operation that differs from a general permit requirement in this Article.
1. The person shall make the request for an alternative feature of technology, design, installation, or operation on a form provided by the Department and include:

a. A description of the requested change;
b. A citation to the applicable design, installation, or operational requirement for which the change is being requested; and
c. Justification for the requested change, including any necessary supporting documentation.

2. The person shall submit the appropriate fee specified under 18 A.A.C. 14 for each requested change. For calculating the fee, a requested change that is applied multiple times in a similar manner throughout the facility is considered a single request if submitted for concurrent review.
3. The person shall provide sufficient information for the Department to determine that the change achieves equal or better performance compared with the general permit requirement, or addresses site or system conditions more satisfactorily than the requirements of this Article.
4. The Department shall review and may approve the request for change.
5. The Department shall deny the request for the change if the change adversely affects other permittees or causes or contributes to a violation of an Aquifer Water Quality Standard.
6. The Department shall deny the request for the change if the change:
   a. Fails to achieve equal or better performance compared to the general permit requirement,
   b. Fails to address site or system conditions more satisfactorily than the general permit requirement,
   c. Is insufficiently justified based on the information provided in the submittal,
   d. Requires excessive review time, research, or specialized expertise by the Department to act on the request, or
   e. For any other justifiable cause.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended to correct a manifest typographical error in subsection (E)(1) (Supp. 01-1).

R18-9-A313. Facility Installation and Operation and Maintenance Plan For On-site Wastewater Treatment Facilities

A. Facility installation. In addition to installation requirements in the general permit, the applicant shall ensure that the following tasks are performed, as applicable.
1. The facility is installed as described in design documents submitted with the Notice of Intent to Discharge;
2. Components are installed on a firm foundation that supports the components and operating loads;
3. The site is prepared to protect native soil beneath the soil absorption area and in adjacent areas from compaction, prevent smeared absorption surfaces, minimize disturbances from grubbing, and otherwise preclude damage to the disposal area that would impair performance;
4. Components are protected from damage at the construction site and installed in conformance with the manufacturer's instructions if consistent with this Article;
5. Treatment media is placed to achieve uniform density, prevent differential settling, produce a level inlet surface unless otherwise specified, and avoid introduction of construction contaminants;
6. Backfill is placed to prevent damage to geotextile, liner materials, tanks, and other components;
7. Soil cover is shaped to shed rainfall away from the backfill areas and prevent ponding of runoff; and
8. Anti-buoyancy measures are implemented during construction if temporary saturated backfill conditions are anticipated during construction.

B. Operation and maintenance. In addition to operation and maintenance requirements in the general permit or specified in the Operation and Maintenance Plan, the permittee shall perform the following tasks as applicable.
1. Inspect and clean pretreatment and wastewater distribution components;
2. Clean or backwash any effluent filters, and return cleaning water to the pretreatment headworks;
3. Inspect and clean the effluent baffle screen and pump tank, and properly dispose of cleaning residue;
4. Clean the dosing tank effluent screen, pump switches, and floats, and properly dispose of cleaning residue;
5. Flush lateral lines and return flush water to the pretreatment headworks;
6. Inspect, remove and replace, if necessary, and properly dispose of filter media;
7. Rod pressurized wastewater delivery lines and secondary distribution lines (for dosing systems), and return cleaning water to the pretreatment headworks;
8. Inspect and clean pump inlets and controls and return cleaning water to the pretreatment headworks;
9. Implement corrective measures if anomalous ponding, dryness, noise, odor, or differential settling is observed; and
10. Inspect and monitor inspection and access ports, as applicable, to verify that operation is within expected limits for:
    a. Influent wastewater quality;
    b. Pressurized dosing system operation;
    c. Aggregate infiltration bed and mound system operation and performance;
    d. Wastewater delivery and engineered pad operation and performance;
    e. Pressurized delivery system, filter, underdrain, and native soil absorption system operation and performance;
    f. Saturation condition status, operation and performance in peat and other media; and
    g. Treatment system components.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A314. Septic Tank Design, Manufacturing, and Installation For On-site Wastewater Treatment Facilities

A. A septic tanks manufacturer shall assure that septic tanks approved for installation under this Article are:
1. Designed to produce a clarified effluent and provide adequate space for sludge and scum accumulations;
2. Watertight and constructed of solid durable materials not subject to excessive corrosion or decay;
3. Manufactured with at least two compartments unless two separate structures are placed in series. The manufacturer shall ensure that:
   a. The inlet compartment of any septic tank not placed in series is nominally 67% to 75% of the total required capacity of the tank,
   b. Septic tanks placed in series are considered a unit and meet the same criteria as a single tank,
   c. The liquid depth of the septic tank is at least 42 inches,
   d. A septic tank of 1000 gallon capacity is at least eight feet long and the tank length of septic tanks of

greater capacity is at least two times but not more than three times the width.

4. Provided with at least two access openings to the tank interior, each at least 20 inches in diameter. The manufacturer shall ensure that:
   a. One access opening is located over the inlet end of the tank and one access opening is located over the outlet end,
   b. Whenever a first compartment exceeds 12 feet in length, another access opening is provided over the baffle wall,
   c. Access openings and risers are constructed to ensure accessibility within six inches below finished grade.
5. Manufactured so that the sewage inlet and wastewater outlet openings are not less in size than the connecting sewer pipe. The manufacturer shall ensure that:
   a. The vertical leg of round inlet and outlet fittings is at least four inches but not less in size than the connecting sewer pipe,
   b. A baffle fitting has the equivalent cross-sectional area of the connecting sewer pipe and not less than a four inch horizontal dimension if measured at the inlet and outlet pipe inverts.
6. Manufactured so that the inlet and outlet pipe or baffle extends four inches above and at least 12 inches below the water surface when the tank is installed according to the manufacturer's instructions consistent with this Chapter. The invert of the inlet pipe shall be at least two inches above the invert of the outlet pipe;
7. Manufactured so that the inlet and outlet fittings or baffles and compartment partitions have a free vent area equal to the required cross-sectional area of the connected sewer pipe to provide free ventilation above the water surface from the disposal field or seepage pit through the septic tank, house sewer, and stack to the outer air;
8. Manufactured so that the side walls extend at least 12 inches above the liquid depth and the cover of the septic tank is at least two inches above the top of the inlet fitting vent opening;
9. Manufactured so that partitions or baffles between compartments are of solid durable material (wooden baffles are prohibited) and extend at least four inches above the liquid level. The manufacturer shall ensure that the open area of the baffle is between one and two times the open area of the inlet pipe or horizontal slot and located at the midpoint of the liquid level of the baffle. If a horizontal slot is used, the slot shall be no more than six inches in height;
10. Structurally designed to withstand all anticipated earth or other loads. The manufacturer shall ensure that:
    a. All septic tank covers are capable of supporting an earth load of 300 pounds per square foot;
    b. If the top of the tank is greater than two feet below finish grade, the septic tank and cover are capable of supporting an additional load of 150 pounds per square foot for each additional foot of cover;
11. Manufactured or installed so that the influent and effluent ends of the tank are clearly and permanently marked on the outside of the tank with the words "INLET" or "IN," and "OUTLET" or "OUT," above or to the right or left of the corresponding openings;
12. Clearly and permanently marked with the manufacturer's name or registered trademark, or both, the month and year of manufacture, the maximum recommended depth of earth cover in feet, and the design liquid capacity of the tank. The manufacturer shall protect the markings from corrosion so that they remain permanent and readable for the usable life of the tank.

B. Materials used to construct or manufacture septic tanks.

1. A person constructing a concrete septic tank cast-in-place at the site of use shall protect the tank from corrosion by coating the tank with a bituminous coating, constructing the tank using a concrete mix that incorporates 15% to 18% fly ash, or other Department-approved means. The manufacturer shall ensure that:
   a. The coating extends at least four inches below the wastewater line and covers all of the internal area above that point.
   b. A septic tank cast-in-place complies with the "Building Code Requirements for Structural Concrete (ACI 318-99) and Commentary (ACI 318R-99)," published by the American Concrete Institute, June 1999; and the "Environmental Engineering Concrete Structures (ACI 350R-89)," published by the American Concrete Institute, January 2000. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from American Concrete Institute, P.O. Box 9094, Farmington Hills, MI 48333-9094.
2. A septic tank manufacturer shall ensure that a steel septic tank has a minimum wall thickness of No. 12 U.S. gauge steel and is protected from corrosion, internally and externally, by a bituminous coating or other Department-approved means.
3. A septic tank manufacturer shall ensure that a prefabricated concrete septic tank complies with the "Standard Specification for Precast Concrete Septic Tanks," published by the American Society for Testing and Materials, (C 1227-00), approved January 10, 2000. This information is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959.
4. A septic tank manufacturer shall ensure that materials for fiberglass or polyethylene septic tanks comply with the "Material and Property Standards for Prefabricated Septic Tanks," published by the International Association of Plumbing and Mechanical Officials, (IAPMO PS 1-99), revised January 1999. This information is incorporated by reference, does not include any later amendments or editions of the incorporated matter, and is on file with the Office of the Secretary of State. The material may be viewed at the Arizona Department of Environmental Quality, Water Quality Division, or obtained from International Association of Plumbing & Mechanical Officials, 20001 E. Walnut Drive, South, Walnut, CA 91789-2825.

C. If any conflict exists between this Article and the information incorporated by reference in subsections (B)(3) and (B)(4), the requirements of this Article apply. The Department may approve septic tanks constructed of alternative materials under R18-9-A312(G). Tanks constructed of wood, block, or bare steel are prohibited. The Department may inspect septic tanks

at the site of manufacturing to verify compliance with subsections (A) through (C).

D. An applicant shall select a septic tank with a design liquid capacity as follows:

1. For a single residence, the design liquid capacity of a septic tank is governed by the following table:

No. of Bedrooms	No. of Occupants	No. of Baths	Maximum Fixture Count	Minimum Septic Tank Size (gallons)
2	4	1-2	18	1000
3	6	1-2	18	1000
4	8	2-3	25	1250
5	10	2-4	32	1500
6	12	3-5	39	2000
7	14	3-5	42	2000

2. For other than a single residence, the recommended design liquid capacity of a septic tank in gallons is 2.1 times the design flow into the tank as determined from Table 1, Unit Daily Design Flows.
3. An applicant may place septic tanks in series to meet the septic tank design liquid capacity requirements.

E. New or replacement septic tank installation. An applicant shall:

1. Provide permanent surface markers for locating the septic tank access openings for maintenance;
2. Ensure that septic tanks installed under concrete or pavement have the required access openings extended to grade;
3. Install a septic tank effluent filter on all septic tanks. The applicant shall ensure that the filter:
   a. Prevents the passage of solids larger than 1/8 inch in diameter while under two feet of hydrostatic head; and
   b. Is constructed of materials that are resistant to corrosion and erosion and sized to accommodate hydraulic and organic loading.
4. Test cast-in-place septic tanks and multi-part septic tanks assembled and sealed at the site of use for watertightness after installation by the water test or the vacuum test and repair, if necessary.
   a. Water test.
      i. The applicant shall ensure that the tank is filled with clean water to the invert of the outlet and the water left standing in the tank for 24 hours. The applicant shall:
         (1) After 24 hours, refill the tank to the invert, if necessary;
         (2) Record the initial water level and time; and
         (3) After one hour, record the water level and time.
      ii. The tank passes the water test if the water level dropped less than 1/4 inch over the one hour period. Any visible leak of flowing water is considered a failure. A damp or wet spot that is not flowing is not considered a failure.
   b. Vacuum test.
      i. The applicant shall:
         (1) Seal the empty tank,
         (2) Apply and stabilize a vacuum of two inches of mercury, and
         (3) Monitor the vacuum for one hour.
      ii. The tank passes the vacuum test if the mercury level dropped no more than 0.2 inches over the one hour period.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-A315. Interceptor Design, Manufacturing, and Installation For On-site Wastewater Treatment Facilities

A. Interceptor requirement. An applicant shall ensure that an interceptor as required by R18-9-A309(A)(8)(c) or necessary due to excessive amounts of grease, garbage, sand, or other wastes in the sewage is installed between the sewage source and the on-site wastewater treatment facility.

B. Interceptor design. An applicant shall ensure that:

1. An interceptor has not less than two compartments with fittings designed for grease retention and capable of removing excessive amounts of grease, garbage, sand, or other wastes. Applicable structural and materials requirements prescribed in R18-9-A314 apply.
2. Interceptors are located as close to the source as possible and are accessible for servicing. The applicant shall ensure that access openings for servicing are at grade level and gas-tight.
3. The applicant shall calculate interceptor size for grease and garbage from non-residential kitchens by the following equation: Interceptor Size (in gallons) = M × F × T × S.
   a. "M" is the number of meals per peak hour.
   b. "F" is the waste flow rate from Table 1, Unit Daily Design Flows.
   c. "T" is the estimated retention time:
      i. Commercial kitchen waste, dishwasher or disposal: 2.5 hours;
      ii. Single service kitchen with utensil wash disposal: 1.5 hours.
   d. "S" is the estimated storage factor:
      i. Fully equipped commercial kitchen, 8 hour operation: 1.0;
      ii. Fully equipped commercial kitchen, 16 hour operation: 2.0;
      iii. Fully equipped commercial kitchen, 24 hour operation: 3.0;
      iv. Single service kitchen: 1.5.
4. The applicant shall calculate interceptor size for silt and grease from laundries and laundromats by the following equation: Interceptor Size (in gallons) = M × C × F × T × S.
   a. "M" is the number of machines,
   b. "C" is the machine cycles per hour (assume 2),
   c. "F" is the waste flow rate from Table 1, Unit Daily Design Flows,
   d. "T" is the estimated retention time (assume 2), and
   e. "S" is the estimated storage factor (assume 1.5 that allows for rock filter).
5. The applicant may calculate the size of an interceptor using different factor values than those given in subsections (B)(4) and (B)(5) based on the values justified by the applicant in the Notice of Intent to Discharge submitted to the Department for the on-site wastewater treatment facility.
6. The Department may require installation of a sampling box if the volume or characteristics of the waste will impair the performance of the on-site wastewater treatment facility.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R.

235, effective January 1, 2001 (Supp. 00-4).

R18-9-A316. Transfer Inspection For On-site Wastewater Treatment Facilities

A. A person possessing working knowledge of the type of facility and the inspection process shall perform a transfer inspection of an on-site wastewater treatment facility.

B. The applicant shall send the Report of Inspection and Notice of Transfer forms required by R18-9-A304 and approved by the Department, and any applicable fee to the health or environmental agency delegated by the Director to administer the on-site wastewater treatment facility program.
1. The Report of Inspection shall:
   a. Indicate that the on-site wastewater treatment facility was inspected within six months before the deed of transfer for the property was recorded, and
   b. Address the physical and operational condition of the on-site wastewater treatment facility and identify associated deficiencies.
2. A copy of the Report of Inspection shall be transmitted to the buyer of the property.

C. This Section does not apply to the first sale of a house or property from a developer or subdivider to the buyer of the property.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2002 (Supp. 00-4).

PART B. TYPE 1 GENERAL PERMITS

R18-9-B301. Type 1 General Permit

A. A 1.01 General Permit allows any discharge of wash water from a sand and gravel operation, placer mining operation, or other similar activity, including construction, foundation, and underground dewatering, if only physical processes are employed and only hazardous substances at naturally occurring concentrations in the sand, gravel, or other rock material are present in the discharge.

B. A 1.02 General Permit allows any discharge from hydrostatic tests of a drinking water distribution system and pipelines not previously used, if all the following conditions are met:
1. The quality of the water used for the test does not violate any Aquifer Water Quality Standard;
2. The discharge is not to waters of the United States, unless the discharge is under a National Pollution Discharge Elimination System permit; and
3. The test site is restored to its natural grade.

C. A 1.03 General Permit allows any discharge from hydrostatic tests of a pipeline previously used for transmission of fluid, other than those previously used for drinking water distribution systems, if all the following conditions are met:
1. All liquid discharge is contained in an impoundment lined with flexible geomembrane material with a thickness of at least 10 mils;
2. The liner material is placed over a layer, at least three inches thick, of well-sorted sand or finer grained material, or over an underliner determined by the Department to provide protection equal to or better than sand or finer grained material;
3. Within 60 days after the end of a hydrostatic test, all test waters are evaporated or removed from the impoundment and taken to a treatment works or landfill approved under 18 A.A.C. 8 to accept the material. Any other methods for removal of the test waters shall be approved in advance by the Department;
4. The liner is removed and disposed of at an approved landfill unless the liner can be reused at another test location without a reduction in integrity; and
5. The test site is restored to its natural grade.

D. A 1.04 General Permit allows any discharge from a facility that, for water quality sampling, hydrologic parameter testing, well development, redevelopment, or potable water system maintenance and repair purposes, receives water, drilling fluids, or drill cuttings from a well if the discharge is to the same aquifer in approximately the same location from which the water supply was originally withdrawn, or the discharge is under a National Pollution Discharge Elimination System permit, or both.

E. A 1.05 General Permit allows an injection well, surface impoundment, and leach line to receive a discharge only of filter backwash from a potable water treatment system, condensate from a refrigeration unit, overflows from an evaporative cooler, heat exchange system return water, or swimming pool filter backwash if the discharge is less than 1000 gallons per day.

F. A 1.06 General Permit allows the burial of mining industry off-road motor vehicle waste tires at the mine site in a manner consistent with the cover requirements in R18-8-703.

G. A 1.07 General Permit allows the operation of dockside facilities and watercraft if the following conditions are met:
1. Docks that service watercraft equipped with toilets provide sanitary facilities at dockside for the disposal of sewage from watercraft toilets. No wastewater from sinks, showers, laundries, baths, or other plumbing fixtures at a dockside facility is discharged into waters of the state;
2. Docks that service watercraft have conveniently located, toilet facilities for men and women;
3. No boat, houseboat, or other type of watercraft is equipped with a marine toilet constructed and operated to discharge sewage directly or indirectly into waters of the state, nor is any container of sewage placed, left, discharged, or caused to be placed, left, or discharged in or near any water of the state by a person;
4. Watercraft with marine toilets constructed to allow sewage to be discharged directly into waters of the state are locked and sealed to prevent usage. Chemical or other type marine toilets with approved storage containers are permitted if dockside disposal facilities are provided; and
5. No bilge water or wastewater from sinks, showers, laundries, baths, or other plumbing fixtures on houseboats or other watercraft is discharged into waters of the state.

H. A 1.08 General Permit allows for any earth pit privy authorized by a county health or environmental department under A.R.S. Title 36 or a delegation agreement under A.R.S. § 49-107.

I. A 1.09 General Permit allows for a sewage treatment facility with flows less than 20,000 gallons per day operating under a general permit before January 1, 2001. The person who owns or operates the permitted facility shall not:
1. Cause or contribute to a violation of a water quality standard,
2. Expand the facility to accommodate increased flows,
3. Treat flows that are not typical sewage,
4. Treat flows from commercial operations using hazardous substances or creating hazardous wastes, as defined in A.R.S. § 49-921(5), or
5. Create any environmental nuisance condition listed in A.R.S. § 49-141.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

PART C. TYPE 2 GENERAL PERMITS

R18-9-C301. 2.01 General Permit: Drywells That Drain Areas Where Hazardous Substances Are Used, Stored, Loaded, or Treated

A. A 2.01 General Permit allows for a drywell that drains an area where hazardous substances are used, stored, loaded, or treated.

B. Notice of Intent to Discharge. In addition to the requirements in R18-9-A301(B), an applicant shall submit:
1. The Department registration number for the drywell or documentation that a drywell registration form was submitted to the Department;
2. For a drywell constructed before January 1, 2001, a certification signed and sealed by an Arizona-registered professional engineer or geologist that a site investigation has concluded either of the following:
   a. Analytical results from sampling of the settling chamber sediment for pollutants reasonably expected to be present do not exceed the residential soil remediation levels or groundwater protection levels, or
   b. Soil-borings or groundwater investigations indicate that an Aquifer Water Quality Standard in groundwater beneath the drywell has not been exceeded.
3. A copy of the Best Management Practices Plan described in subsection (D)(5).

C. Design requirements. An applicant shall:
1. Locate the drywell no closer than 100 feet from a water supply well and 20 feet from an underground storage tank;
2. Clearly mark the drywell "Storm Water Only" on the surface grate or manhole cover;
3. Locate the bottom of the drywell hole at least 10 feet above the groundwater table. The applicant shall seal off any zone of perched water above the groundwater table from the drywell following the requirements established under 12 A.A.C. 15, Article 8; and
4. Ensure that the drywell design includes a flow control or pretreatment device, such as an interceptor, sump, or another device or structure designed to remove, intercept, or collect pollutants.

D. Operational requirements.
1. A permittee shall operate the drywell only for the disposal of storm water.
2. The permittee shall implement a Best Management Practices Plan for operation of the drywell and control of detrimental practices in the drywell drainage area.
3. The permittee shall keep the Best Management Practices Plan on-site or at the closest practical place of work and provide the plan to the Department upon request.
4. The permittee may substitute any Spill Prevention Containment and Control Plan, facility response plan, or National Pollutant Discharge Elimination System Storm Water Pollution Prevention Plan that meets the requirements of this subsection for a Best Management Practices Plan.
5. The Best Management Practices Plan shall include:
   a. A site plan showing surface drainage patterns and the location of floor drains, water supply, monitor wells, underground storage tanks, and chemical and waste usage, storage, loading, and treatment areas. The site plan shall show surface grading details designed to prevent drainage and spills of hazardous substances from leaving the drainage area and entering the drywell;
   b. A design plan showing details of drywell design and drainage design, including flow control or pretreatment devices, such as interceptors, sumps, and other devices and structures designed to remove, intercept, and collect pollutants;
   c. Procedures to prevent and contain spills and minimize discharges to the drywell;
   d. Operational practices that include routine inspection and maintenance of the drywell, periodic inspection of waste storage facilities, and proper handling of hazardous substances to prevent discharges to the drywell; and
   e. Procedures for periodic employee training on practices required by the Best Management Practices Plan.

E. Recordkeeping. A permittee shall maintain a log book as part of the Best Management Practices Plan that documents drywell maintenance, inspections, employee training, and sampling activities.

F. Spills. The permittee shall notify the Department within 24 hours of any spill of hazardous substances exceeding the applicable reportable quantity established under 40 CFR 302.4, "Designation of Hazardous Substances," and 40 CFR 302.5, "Determination of Reportable Quantities," July 1, 1999 Edition, into the drywell or of any spill of petroleum products exceeding 25 gallons into the drywell. These regulations are incorporated by reference and do not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality and the Office of the Secretary of State.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-C302. 2.02 General Permit: Intermediate Stockpiles at Mining Sites

A. A 2.02 General Permit allows for intermediate stockpiles not qualifying as inert under A.R.S. § 49-201(19) at a mining site.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge under R18-9-A301(B), an applicant shall submit the construction and operation specifications used to satisfy the requirements in subsection (C)(1).

C. Design and operational requirements.
1. An applicant shall design, construct, and operate the stockpile so that it does not impound water. An applicant may rely on storm water run-on controls or facility design features, such as drains, or both.
2. An applicant shall direct storm runoff contacting the stockpile to a mine pit or a facility covered by an individual or general permit.
3. A permittee shall maintain any engineered feature designed to aid compliance with the permit in good working condition.
4. A permittee shall visually inspect the features described in subsection (C)(1) at least quarterly. Any defects noted during the inspection shall be repaired as soon as practical.
5. A permittee shall not add hazardous substances to the stockpiled material.

D. Closure requirements.
1. If an intermediate stockpile covered under this general permit is permanently closed, a permittee shall remove any remaining material, to the greatest extent practical, and regrade the area to prevent impoundment of water.

2. The permittee shall submit a narrative description of closure measures to the Department within 30 days after closure.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-C303. 2.03 General Permit: Hydrologic Tracer Studies

A. A 2.03 General Permit allows for discharge caused by the performance of tracer studies.
1. This permit does not authorize the use of any hazardous substance, radioactive material, or any substance identified in A.R.S. § 49-243(I) in any tracer study.
2. A single tracer test shall be completed within two years of the Notice of Intent to Discharge.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A narrative description of the tracer test including the type and amount of tracer used;
2. A Material Safety Data Sheet for the tracer; and
3. Unless the injection or distribution is within the capture zone of an established passive containment system meeting the requirements of A.R.S. § 49-243(G), the following information:
   a. A narrative description of the impacts that may occur if a solution migrates outside the test area, including a list of downgradient users, if any;
   b. The anticipated effects and expected concentrations, if possible to calculate; and
   c. A description of the monitoring, including types of tests and frequency.

C. Design and operational requirements. A permittee shall:
1. Ensure that injection into wells inside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) does not exceed the total depth of the influence of the hydrologic sink;
2. Ensure that injection into wells outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) does not exceed rock fracture pressures during injection of the tracer;
3. Not add substances to wells that are not compatible with their construction;
4. Ensure that a tracer is compatible with the construction materials at the impoundment if a tracer is placed or collected in an existing impoundment;
5. Monitor any wells hydraulically downgradient of the test site for the tracer for at least two years on a quarterly basis if a tracer is used outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) and less than 85% of the tracer is recovered. This period may be adjusted with the consent of the Department if the applicant can show that the hydraulic gradient causes the tracer to reach the monitoring point in a shorter or longer period of time;
6. Ensure that a tracer does not leave the site in concentrations distinguishable from background water quality; and
7. Monitor the amount of tracer used and recovered and submit a report summarizing the test and results to the Department within 30 calendar days of test completion.

D. Recordkeeping. A permittee shall retain the following information at the site where the facility is located for at least three years after test completion and make it available to the Department upon request.
1. Test protocols,
2. Material Safety Data Sheet information,
3. Recovery records, and
4. A copy of the report submitted to the Department under subsection (C)(7).

E. Closure requirements.
1. If a tracer was used outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G), a permittee shall account for any tracer not recovered through attenuation, modeling, or monitoring.
2. Closure may occur immediately following the test, or if the test area is within a pollutant management area defined in an individual permit, at the conclusion of operations.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-C304. 2.04 General Permit: Drywells that Drain Areas at Motor Fuel Dispensing Facilities Where Motor Fuels are Used, Stored, or Loaded

A. A 2.04 General Permit allows for a drywell that drains an area at a facility for dispensing motor fuel, as defined in A.A.C. R20-2-701(19), including a commercial gasoline station with an underground storage tank.
1. A drywell at a motor fuel dispensing facility using hazardous substances is eligible for coverage under this general permit.
2. A drywell at a vehicle maintenance facility owned or operated by a commercial enterprise or by a federal, state, county, or local government is not eligible for coverage under this general permit, unless the facility design ensures that only motor fuel dispensing areas will drain to the drywell. Areas where hazardous substances other than motor fuels are used, stored, or loaded, including service bays, are not covered under this general permit.
3. For purposes of this Section, "hazardous substances" means substances that are components of commercially packaged automotive supplies, such as motor oil, antifreeze, and routine cleaning supplies such as those used for cleaning windshields, but not degreasers, engine cleaners, or similar products.

B. Notice of Intent to Discharge.
1. An applicant shall provide design information to demonstrate that the requirements in subsection (C) are met.
2. In addition to the requirements in R18-9-A301(B), an applicant shall submit:
   a. The Department registration number for the drywell or documentation that a drywell registration form was submitted to the Department; and
   b. For a drywell constructed more than 90 days before the Notice of Intent to Discharge is submitted, a certification signed and sealed by an Arizona-registered professional engineer or geologist that a site investigation concluded that the drywell is marked "Stormwater Only" on the surface grate or manhole cover; and
      i. The settling chamber does not contain sediment for characterizing and comparison of results to soil remediation levels and the chamber has not been cleaned out within the last six months; or
      ii. Analytical results from sampling of the settling chamber sediment for pollutants reasonably expected to be present do not exceed the residential soil remediation levels or groundwater protection levels; or
      iii. Soil-borings indicate that neither a soil remedi-

ation level nor groundwater protection level is exceeded in soil beneath the drywell.

C. Design requirements.
1. An applicant shall:
   a. Include a flow control or pretreatment device, or both, that removes, intercepts, or collects spilled motor fuel or hazardous substances before stormwater enters the drywell injection pipe;
   b. Calculate the volume of runoff generated in the design storm event and anticipate the maximum potential contaminant release quantity to design the treatment and holding capacity of the drywell;
   c. Follow local codes and regulations to meet retention periods for removing standing water;
   d. Locate the drywell at least 100 feet from a water supply well and 20 feet from an underground storage tank; and
   e. Locate the bottom of the drywell injection pipe at least 10 feet above the groundwater table. The applicant shall seal off any zone of perched water above the groundwater table from the drywell injection pipe following the requirements in R12-15-816(I)(1) and (2).
2. An applicant that cannot meet the design requirements in subsections (C)(1)(d) and (e) shall provide the Department with the date of drywell construction, the distance from the drywell to the nearest water supply well and from the drywell to the underground storage tank, and the depth to the groundwater from the bottom of the drywell injection pipe.

D. A permittee shall ensure that motor fuels and other hazardous substances are not discharged to the subsurface. A permittee may use any of the following flow control or pretreatment technologies:
1. Flow control. The permittee shall ensure that motor fuel and hazardous substance spills are removed before allowing stormwater to enter the drywell.
   a. Normally closed manual or automatic valve. The permittee shall leave a normally closed valve in a closed position except when stormwater is allowed to enter the drywell;
   b. Raised drywell inlet. The permittee shall:
      i. Raise the drywell inlet at least six inches above the bottom of the retention basin or other storage structure, or install a six-inch asphalt or concrete raised barrier encircling the drywell inlet to provide a non-draining storage capacity within the retention basin or storage structure for complete containment of a spill; and
      ii. Ensure that the storage capacity is at least 110 percent of the combined volume of the design storm event required by the local jurisdiction and the maximum releasable quantity of spilled motor fuel;
   c. Magnetic mat or cap. The permittee shall ensure that the drywell inlet is sealed with a mat or cap at all times, except after rainfall or storm event when the mat or cap is temporarily removed to allow stormwater to enter the drywell; and that the mat or cap is always used with a retention basin or other type of storage;
   d. Primary sump, interceptor, or settling chamber. The permittee may use a primary sump, interceptor, or settling chamber only in combination with another flow control or pre-treatment technology.
      i. The permittee shall remove motor fuel or hazardous substances from the sump, interceptor, or chamber before allowing stormwater to enter the drywell.
      ii. The permittee shall install a settling chamber or sump and allow the suspended solids to settle before stormwater flows into a drywell; install the drywell injection pipe in a separate chamber and connect the sump, interceptor, or chamber to the drywell inlet by piping and valving to allow the stormwater to enter the drywell.
      iii. The permittee may install fuel hydrocarbon detection sensors in the sump, interceptor, or settling chamber that use flow control to prevent fuel from discharging into the drywell;
2. Pretreatment. The permittee shall prevent the bypass of motor fuels and hazardous substances from the pretreatment system to the drywell during periods of high flow.
   a. Catch basin inlet filter. The permittee shall:
      i. Install a catch basin inlet filter to fit inside a catchment drain to prevent motor fuels and hazardous substances from entering the drywell,
      ii. Ensure that a motor fuel spill or a spill during a high rainfall does not bypass the system and directly release to the drywell injection pipe; and
      iii. Combine the catch basin inlet filter with a flow control technology to prevent contaminated stormwater from entering the drywell injection pipe;
   b. Combined settling chamber and a oil/water separator.
      i. The permittee shall install a system that incorporates a catch basin inlet, a settling chamber, and an oil/water separator.
      ii. The permittee may incorporate a self-sealing mechanism, such as fuel hydrocarbon detection sensors that activate a valve to cutoff flow to the drywell inlet.
   c. Combined settling chamber and oil/water separator, and filter/adsorption. The permittee shall:
      i. Allow for adequate collection and treatment capacity for solid and liquid separation; and
      ii. Allow a minimum treated outflow from the system to the drywell inlet of 20 gallons per minute. If a higher outflow rate is anticipated, the applicant shall design a larger collection system with storage capacity.
   d. Passive skimmer.
      i. If a passive skimmer is used, the permittee shall install sufficient hydrocarbon adsorbent materials, such as pads and socks, or suspend the materials on top of the static water level in a sump or other catchment to absorb the entire volume of expected or potential spill.
      ii. The permittee may use a passive skimmer only in combination with another flow control or pre-treatment technology.

E. Inspection. A permittee shall:
1. Conduct an annual inspection of the drywell for sediment accumulation in the chambers, and flow control and treatment systems to ensure that the drywell is functioning properly; and
2. If the stormwater fails to drain through the drywell within 36 hours, inspect the treatment system and piping to ensure that it is functioning properly.

F. Operation and maintenance. A permittee shall:

1. Operate the drywell only for the subsurface disposal of stormwater;
2. Remove or treat any motor fuel or hazardous substance spills;
3. Replace the adsorbent material in skimmers when the adsorbent capacity is reached;
4. Maintain valves and associated piping;
5. Maintain magnetic caps and mats;
6. Remove sludge from the oil/water separator and replace the filtration or adsorption materials to maintain treatment capacity;
7. Remove sediment from the catch basin inlet filters and retention basins to maintain required storage capacity;
8. Remove accumulated sediment from the settling chamber annually or when 25 percent of the effective settling capacity is filled, whichever occurs first; and
9. Provide new employee training within one month of hire and annual employee training on how to maintain and operate flow control and pretreatment technology used in the drywell.

G. Closure Requirements.

1. A permittee shall comply with the following closure requirements:
   a. Retain a drywell drilling contractor, licensed under 4 A.A.C. 9, to close the drywell;
   b. Remove sediments and any drainage components, such as stand pipes and screens from the drywell's settling chamber and backfill the injection pipe with cement grout;
   c. Remove the top of the drywell, including the upper settling chamber to a depth of at least six feet below the ground surface. The permittee may use a backhoe or other excavation equipment;
   d. Fill the remaining settling chamber with clean, mechanically compacted silt, clay, similar engineered material, or ABC slurry;
   e. Place a cement grout plug at least two feet thick with the top set at four feet below the ground surface;
   f. Backfill the remainder of the drywell to the land surface with clean silt, clay, or engineered material. Materials containing hazardous substances are prohibited from use in backfilling the drywell; and
   g. Mechanically compact the backfill.
2. If a permittee uses procedures other than those listed in subsection (G)(1) in closure, the permittee shall demonstrate to the Department that those procedures are equivalent to the procedures listed in subsection (G)(1) and will prevent any fluid migration from the ground surface to an aquifer and obtain approval before implementation;
3. Within 30 days of closure, the permittee shall submit written verification of the closure procedures the permittee used to the Department with the drywell registration number or a completed registration form. The written verification shall specify:
   a. The reason for the closure;
   b. The materials and methods used to abandon the drywell;
   c. The name of the contractor who performed the closure;
   d. The completion date;
   e. Any sampling data collected from the drywell investigation if performed or if required by the Department; and
   f. Sump construction details, if a sump is constructed to replace the abandoned drywell.
4. The Department may require additional investigations or corrective actions if any of the following conditions exist:
   a. The permittee has not satisfied the closure requirements in R18-9-A306,
   b. The permittee provided incorrect or inaccurate information or there is relevant information missing from the permit application or closure reports,
   c. The permittee has not eliminated discharges from the facility through closure activities, or
   d. Closure and decommissioning activities have not demonstrated or achieved compliance with aquifer water quality standards.
5. If no motor fuel or hazardous substance spill enters the drywell, the permittee complies with the closure requirements under R18-9-A306 by satisfying the requirements in subsections (G)(1) or (2).
6. If a motor fuel or hazardous substance spill has entered the injection pipe, the permittee shall comply with the requirements in A.R.S. § 49-252, R18-9-A306, and subsection (H)(1)(c) to close the drywell.

H. Spills.

1. A permittee shall:
   a. Notify the Department within 24 hours of any spill of motor fuel or hazardous substances that enters into the drywell or exceeds the treatment capacity of the pretreatment system;
   b. Contain, cleanup, and dispose of, according to local, state, and federal requirements, any spill or leak of motor fuel and hazardous substance in the drywell drainage area and basin drainage area; and
   c. If the spill reaches the injection pipe, drill a soil boring within five feet of the drywell inlet chamber and sample in five-foot increments to a depth extending at least 10 feet below the base of the injection pipe to determine whether a soil remediation level or groundwater protection level has been exceeded in the subsurface.
2. The Department may require additional investigations or corrective actions based on its assessment of whether an exceedance of a soil remediation level or groundwater protection level in the soil boring poses a risk of noncompliance with human health or water quality standards.

I. Recordkeeping. A permittee shall maintain for at least 10 years, the following documents on-site, or at the closest practical place of work, and make the documents available to the Department upon request:

1. A log book that documents drywell maintenance, inspections, employee training, and sampling activities;
2. A site plan showing surface drainage patterns and the location of floor drains, water supply wells, monitor wells, underground storage tanks, and places where motor fuel and hazardous substances are used, stored, or loaded;
3. A design plan showing details of drywell design and drainage design, including one or a combination of the pre-approved flow control and pretreatment technologies; and
4. An operations and maintenance manual that includes:
   a. Procedures to prevent and contain spills and minimize discharges to the drywell and a list of actions and specific methods that will be used for motor fuel and hazardous substance spills or leaks;
   b. A method and procedures for inspection and operation and maintenance activities;
   c. The procedure for spill response; and
   d. A description of the employee training program.

Historical Note
New Section made by final rulemaking at 8 A.A.R. 4096, effective September 15, 2002 (Supp. 02-3).

PART D. TYPE 3 GENERAL PERMITS

R18-9-D301. 3.01 General Permit: Lined Impoundments

A. A 3.01 General Permit allows a lined surface impoundment and a lined secondary containment structure. A permittee shall:
1. Ensure that inflow to the lined surface impoundment or lined secondary containment structure does not contain organic pollutants identified in A.R.S. § 49-243(I);
2. Ensure that inflow to the lined surface impoundment or lined secondary containment structure is from one or more of the following sources:
   a. Evaporative cooler overflow in excess of 1000 gallons per day;
   b. Wastewater that does not contain sewage, temporarily stored for short periods of time due to process upsets or rainfall events, provided the wastewater is promptly removed from the facility as required under subsection (D)(5). Facilities that continually contain wastewater as a normal function of facility operations are not covered under this general permit;
   c. Storm water runoff that is not permitted under A.R.S. § 49-245.01 because the facility does not receive solely storm water or because the runoff is regulated under the Clean Water Act but is not considered storm water under the Act;
   d. Emergency fire event water;
   e. Wastewater from air pollution control devices at asphalt plants if the wastewater is routed through a sedimentation trap or sump and an oil/water separator before discharge;
   f. Non-contact cooling tower blowdown and non-contact cooling water, except discharges from electric generating stations with more than 100 megawatts generating capacity;
   g. Boiler blowdown;
   h. Wastewater derived from a potable water treatment system including clarification sludge, filtration backwash, lime and lime softening sludge, ion exchange backwash, and reverse osmosis spent waste;
   i. Wastewater from food washing;
   j. Heat exchanger return water in excess of 1000 gallons per day; and
   k. Wastewater from industrial laundries.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A listing and description of all sources of inflow;
2. A representative chemical analysis of each expected source of inflow. If a sample is not available before facility construction, a permittee shall provide the chemical analysis of each inflow to the Department within 60 days of each inflow to the facility;
3. A narrative description of how the conditions of this general permit is satisfied. The narrative shall include a Quality Assurance/Quality Control program for liner installation, impoundment maintenance and repair, impoundment operational procedures; and
4. A contingency plan that specifies actions to be taken in case of an accidental release from the facility, overtopping of the impoundment, or breach of the berm, and unauthorized inflows into the impoundment or containment structure.

C. Design and installation requirements. An applicant shall:
1. Design and construct surface water controls. The applicant shall:
   a. Ensure that the impoundment or secondary containment structure maintains, using design volume or mechanical systems, normal operating volumes, if any, and any inflow from the 100-year, 24-hour storm event. The facility shall maintain two feet of freeboard or an alternative level of freeboard that the applicant demonstrates is reasonable, considering the size of the impoundment and meteorologic and other site-specific factors; and
   b. Direct any surface water run-on from the 100-year 24-hour storm event not intended for capture by facility design around the facility.
2. Ensure that the facility accommodates any significant geologic hazard, addressing static and seismic stability. The applicant shall document any design adjustments for this reason in the Notice of Intent to Discharge;
3. Ensure that site preparation includes, as appropriate, clearing the area of vegetation, grubbing, grading and embankment, and subgrade preparation. The applicant shall ensure that supporting surface slopes and foundation are stable and structurally sound;
4. Impoundment lining requirements. The applicant shall:
   a. Ensure that the liner is at least a 30-mil geomembrane liner or a 60-mil liner if High Density Polyethylene is used, or an alternative, and that the liner's calculated seepage rate is less than 550 gallons per acre per day:
      i. If a synthetic liner is used, the applicant shall anchor the liner by securing it in an engineered anchor trench; and
      ii. The applicant shall ensure that the liner is ultraviolet resistant if it is regularly exposed to sunlight.
   b. If a soil liner is used, ensure it resists swelling, shrinkage, and cracking. The applicant shall:
      i. Ensure that the soil is at least one foot thick and compacted to a uniform density of 95% to meet the "Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effect (12,400 ft-lbf/ft^3)," (D 698-91), published by the American Society for Testing and Materials, reapproved 1998. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959; and
      ii. Upon installation, protect the soil liner to prevent desiccation.
   c. For new facilities, develop and implement a construction Quality Assurance/Quality Control program that addresses site and subgrade preparation, inspection procedures, field testing, laboratory testing, and final inspection after construction of the liner to ensure functional integrity.

D. Operational requirements. A permittee shall:

1. Maintain sufficient freeboard to manage the 100-year, 24-hour storm event plus two feet of freeboard under normal operating conditions. Management of the 100-year, 24-hour storm event may be through design, pumping, or a combination of both;
2. Remove accumulated residues, sediments, debris, and vegetation to maintain the integrity of the liner material and design capacity;
3. Perform and document a visual inspection for damage to the liner material and for accumulation of residual material at least monthly. The operator shall conduct an inspection within 72 hours after the facility receives a significant volume of storm water inflow;
4. Repair damage to the liner following the Quality Assurance/Quality Control Plan required under subsection (B)(3); and
5. Remove all inflow from the impoundment as soon as practical, but no later than 60 days after a temporary event, for facilities designed to contain inflow only for temporary events, such as process upsets.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built drawings, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure:
3. Capacity design criteria;
4. A list of standard operating procedures;
5. The construction Quality Assurance/Quality Control program documentation; and
6. Records of any inflow into the impoundment other than those permitted by this Section.

F. Reporting requirements.
1. If the liner is breached, as evidenced by a drop in water level not attributable to evaporation, or if the impoundment breaches or is overtopped due to a catastrophic or other significant event, the permittee shall report the circumstance to the Department within five days of discovery and implement the contingency plan required in subsection (B)(4). The permittee shall submit a final report to the Department within 60 days of the event summarizing the circumstances of the problem and corrective actions taken.
2. The permittee shall report unauthorized flows into the impoundment to the Department within five days of discovery and implement the contingency plan required in subsection (B)(4).

G. Closure requirements. The permittee shall notify the Department of the intent to close the facility permanently. Within 90 days following closure notification the permittee shall comply with the following requirements, as applicable:
1. Remove any solid residue on the liner material and dispose of it appropriately;
2. Inspect the liner material for evidence of holes, tears, or defective seams that could have leaked;
3. If evidence of leakage is discovered, remove the liner in the area of suspected leakage and sample potentially impacted soil. If soil remediation levels are exceeded, the permittee shall, within 60 days, notify the Department and submit an action plan for the Department's approval before implementing the plan;
4. If there is no evidence of holes, tears, or defective seams that could have leaked:
   a. Cover the liner in place or remove it for disposal or reuse if the impoundment is an excavated impoundment,
   b. Remove and dispose of the liner elsewhere if the impoundment is bermed, and
   c. Grade the facility to prevent the impoundment of water.
5. Notify the Department within 60 days following closure that the action plan has been implemented and the closure is complete.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-D302. 3.02 General Permit: Process Water Discharges from Water Treatment Facilities

A. A 3.02 General Permit allows filtration backwash and discharges obtained from sedimentation and coagulation in the water treatment process from facilities that treat water for industrial process or potable uses.
1. The discharge shall meet all numeric Aquifer Water Quality Standards for inorganic chemicals, organic chemicals, and pesticides established in R18-11-406(B) through (D);
2. The discharge shall meet one of the following criteria for microbiological contaminants:
   a. A fecal coliform limit, using the membrane filter technique, of two colony forming units per 100 ml (seven-sample median) and a single-sample maximum limit of 23 colony forming units per 100 ml, or equivalent numbers using the multiple tube fermentation method; or
   b. A seven-sample median limit of 200 colony forming units per 100 ml and a single-sample maximum limit of 800 colony forming units per 100 ml for fecal coliform, provided the average daily flow processed by the water treatment facility is less than 250,000 gallons.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A characterization of the discharge, including a representative chemical and biological analysis of expected discharges and all source waters; and
2. The design capacity of any impoundment covered by this general permit.

C. Design and siting requirements. An applicant shall:
1. Ensure that the depth to the static groundwater table is greater than 20 feet;
2. Not locate the area of discharge immediately above karstic or fractured bedrock;
3. Maintain a minimum horizontal setback of 100 feet between the facility and any water supply well;
4. Design and construct an impoundment, used to manage process water discharges, to maintain, using design volume or mechanical systems, normal operating volumes, if any, and any inflow from the 100-year, 24-hour storm event or may discharge to surface water under the conditions of a National Pollution Discharge Elimination System permit. The applicant shall:
   a. Design the facility to maintain two feet of freeboard or an alternative level of freeboard that the applicant demonstrates is reasonable, considering the size of the impoundment, meteorologic, and other site-specific factors; and

b. Divert any surface water run-on from the 100-year, 24-hour storm event not intended for capture by facility design around the facility.

5. Manage off site disposal of sludges according to A.R.S. Title 49, Chapter 4.

D. Operational requirements.

1. Inorganic chemical, organic chemical, and pesticide monitoring:
   a. The permittee shall monitor any discharge annually to determine compliance with the requirements of subsection (A)(1).
   b. If the concentration of any constituent exceeds the numeric Aquifer Water Quality Standard, the permittee shall submit a report to the Department with a proposal for mitigation and shall increase monitoring frequency for that pollutant to quarterly.
   c. If the condition in subsection (D)(1)(b) persists for two additional quarters, the permittee shall submit an application for an individual permit.
2. Microbiological contaminants monitoring:
   a. The permittee shall monitor any discharge annually to determine compliance with the requirements of subsection (A)(2).
   b. If the concentration of any constituent exceeds the limits established in subsection (A)(2), the permittee shall submit a report to the Department with a proposal for mitigation and increase monitoring frequency for that pollutant to monthly.
   c. If the condition in subsection (D)(2)(b) persists for three additional months, the permittee shall submit an application for an individual permit.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:

1. Construction drawings and as-built drawings, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure;
3. Water quality data collected under subsection (D);
4. Standard operating procedures; and
5. Records of any discharge other than those identified by subsection (B).

F. Reporting requirements. The permittee shall report unauthorized flows into the impoundment to the Department within five days of discovery.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-D303. 3.03 General Permit: Vehicle and Equipment Washes

A. A 3.03 General Permit allows a facility that discharges water from washing vehicle exteriors and vehicle equipment. This general permit does not authorize:

1. Discharge water that typically results from the washing of vehicle engines unless the discharge is to a lined surface impoundment;
2. Direct discharges of sanitary sewage, vehicle lubricating oils, antifreeze, gasoline, paints, varnishes, solvents, pesticides, or fertilizers;
3. Discharges resulting from washing the interior of vessels used to transport fuel products or chemicals, or washing equipment contaminated with fuel products or chemicals; or
4. Discharges resulting from washing the interior of vehicles used to transport mining concentrates that originate from the same mine site, unless the discharge is to a lined surface impoundment.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit a narrative description of the facility and a design of the disposal system and wash operations.

C. Design, installation, and testing requirements. An applicant shall:

1. Design and construct the wash pad:
   a. To drain and route wash water to a sump or similar sediment settling structure and an oil/water separator;
   b. Of concrete or material chemically compatible with the wash water and its constituents; and
   c. To support the maximum weight of the vehicle or equipment being washed with an appropriate safety factor.
2. Not use unlined ditches or natural channels to convey wash water;
3. Ensure that a surface impoundment meets the requirements in R18-9-D301(C)(1) and (C)(3). The applicant shall ensure that berms or dikes at the impoundment can withstand wave action erosion and are adequately compacted to a uniform density not less than 95%;
4. Ensure that a surface impoundment required for wash water described in subsection (A)(1) meets the design and installation requirements in R18-9-D301(C);
5. If wash water is received by an unlined surface impoundment or engineered subsurface disposal system, the applicant shall:
   a. Ensure that the annual daily average flow is less than 3000 gallons per day;
   b. Maintain a minimum horizontal setback of 100 feet between the impoundment or subsurface disposal system and any water supply well;
   c. Ensure that the bottom of the surface impoundment or subsurface disposal system is at least 50 feet above the static groundwater level and the intervening material does not consist of karstic or fractured rock;
   d. Ensure that the wash water receives primary treatment before discharge through, at a minimum, a sump or similar structure for settling sediments or solids and an oil/water separator designed to reduce oil and grease in the wastewater to 15 mg/l or less;
   e. Withdraw the separated oil from the oil/water separator using equipment such as adjustable skimmers, automatic pump-out systems, or level sensing systems to signal manual pump-out; and
   f. If a subsurface disposal system is used, design the system to prevent surfacing of the wash water.

D. Operational requirements. The permittee shall:

1. Inspect the oil/water separator before operation to ensure that there are no leaks and that the oil/water separator is in operable condition;
2. Inspect the entire facility at least quarterly. The inspection shall, at a minimum, consist of a visual examination of the wash pad, the sump or similar structure, the oil/water separator, and all surface impoundments;
3. Visually inspect each surface impoundment at least monthly, to ensure the volume of wash water is maintained within the design capacity and freeboard limitation;

4. Repair damage to the integrity of the wash pad or impoundment liner as soon as practical;
5. Maintain the oil/water separator to achieve the operational performance of the separator;
6. Remove accumulated sediments in all surface impoundments to maintain design capacity; and
7. Use best management practices to minimize the introduction of chemicals not typically associated with the wash operations. Only biodegradable surfactant or soaps are allowed. Products that contain chemicals in concentrations likely to cause a violation of an Aquifer Water Quality Standard at the applicable point of compliance are prohibited.

E. Monitoring requirements.
1. If wash water is discharged to an unlined surface impoundment or other area for subsurface disposal, the permittee shall monitor the wash water quarterly at the point of discharge for pH and for the presence of C_{10} through C_{32} hydrocarbons using a Department of Health Services certified method.
2. If pH is not between 6.0 and 9.0 or the concentration of C_{10} through C_{32} hydrocarbons exceeds 50 mg/l, the permittee shall submit a report to the Department with a proposal for mitigation and shall increase monitoring frequency to monthly.
3. If the condition in subsection (E)(2) persists for three additional months, the permittee shall submit an application for an individual permit.

F. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built drawings, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure; and
3. The Material Safety Data Sheets for the chemicals used in the wash operations and any required monitoring results.

G. Closure requirements. A permittee shall comply with the closure requirements specified in R18-9-D301(G) if a liner has been used. If no liner is used the permittee shall grade the facility to prevent impoundment of water.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-D304. 3.04 General Permit: Non-storm Water Impoundments at Mining Sites

A. A 3.04 General Permit allows discharges to lined surface impoundments, lined secondary containment structures, and associated lined conveyance systems at mining sites.
1. A discharge may include one or more of the following:
   a. Seepage from tailing impoundments, unleached rock piles, or process areas;
   b. Process solution temporarily stored for short periods of time due to process upsets or rainfall, provided the solution is promptly removed from the facility as required under subsection (D);
   c. Storm water runoff not permitted under A.R.S. § 49-245.01 because the facility does not receive solely storm water or because the runoff is regulated under the Clean Water Act and is not considered storm water under the Act; and
   d. Wash water specific to sand and gravel operations not covered by R18-9-B301(A).
2. Facilities that continually contain process solution as a normal function of facility operations are not eligible for coverage under this general permit. If a normal process solution contains a pollutant regulated under A.R.S. § 49-243(I) this general permit does not apply if the pollutant will compromise the integrity of the liner.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A description of the sources of inflow to the facility. An applicant shall include a representative chemical analysis of expected sources of inflow to the facility unless a sample is not available, before facility construction, in which case the applicant shall provide a chemical analysis of solution present in the facility to the Department within 90 days after the solution first enters the facility;
2. Documentation demonstrating that plans have been reviewed by a mining engineer or an Arizona-registered professional engineer before submission to the Department; and
3. A contingency plan that specifies actions to be taken in case of an accidental release from the facility, overtopping of the impoundment or breach of the berm, and unauthorized inflows into the impoundment or containment structure.

C. Design, construction, and installation requirements. An applicant shall:
1. Design and construct the impoundment or secondary containment structure as specified under R18-9-D301(C)(1);
2. Ensure that conveyance systems are capable of handling the peak flow from the 100-year storm;
3. Construct the liner as specified in R18-9-D301(C)(4)(a);
4. Develop and implement a Quality Assurance/Quality Control program that meets or exceeds the liner manufacturer's guidelines. The program shall address site and subgrade preparation, inspection procedures, field testing, laboratory testing, repair of seams during installation, and final inspection of the completed liner for functional integrity;
5. If the facility is located in the 100-year flood plain, design the facility so it is protected from damage or flooding as a result of 100-year, 24-hour peak streamflows;
6. Design and manage the facility so groundwater does not come into contact with the liner;
7. Ensure that the facility accommodates any significant geologic hazard addressing static and seismic stability. The applicant shall document any design adjustments for this reason in the Notice of Intent to Discharge;
8. Ensure that the site preparation includes, as appropriate, clearing the area of vegetation, grubbing, grading and embankment, and subgrade preparation. The applicant shall ensure that supporting surface slopes and foundation are stable and structurally sound;
9. Ensure that the liner is anchored by being secured in an engineered anchor trench. If regularly exposed to sunlight, the applicant shall ensure that the liner is ultraviolet resistant; and
10. Use compacted clay subgrade in areas with shallow groundwater conditions.

D. Operational requirements. The permittee shall:
1. Maintain the freeboard required in subsection (C)(1) through design, pumping, or both;
2. Remove accumulated residues, sediments, debris, and vegetation to maintain the integrity and the liner to maintain design capacity;

3. Document a visual inspection for cracks, tears, perforations and residual build-up at least monthly. The operator shall conduct an inspection after the facility receives significant volumes of storm water inflow;
4. Report cracks, tears, and perforations in the liner to the Department, and repair them as soon as practical, but no later than 60 days under normal operating conditions, after discovery of the crack, tear, or perforation;
5. For facilities that temporarily contain a process solution due to process upsets, remove the process solution from the facility as soon as practical, but no later than 60 days after cessation of the upset;
6. For facilities that temporarily contain a process solution due to rainfall, remove the process solution from the facility as soon as practical.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built drawings, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results and facility closure:
3. Capacity design criteria;
4. List of standard operating procedures;
5. The Quality Assurance/Quality Control program required under subsection (C)(4); and
6. Records of any unauthorized flows into the impoundment.

F. Reporting requirements.
1. If the liner is breached, as evidenced by a drop in water level not attributable to evaporation, or if the impoundment breaches or is overtopped due to a catastrophic or other significant event, the permittee shall report the circumstance to the Department within five days of discovery and implement the contingency plan required in subsection (B)(3). The permittee shall submit a final report to the Department within 60 days of the event summarizing the circumstances of the problem and corrective actions taken.
2. The permittee shall report unauthorized flows into the impoundment to the Department within five days of discovery and implement the contingency plan required in subsection (B)(3).

G. Closure requirements. The permittee shall notify the Department of the intent to close the facility permanently. Within 90 days following closure notification the permittee shall comply with the following requirements, as applicable:
1. Remove any solid residue on the liner material and dispose of it appropriately;
2. Inspect the liner material for evidence of holes, tears, or defective seams that could have leaked;
3. If evidence of leakage is discovered, remove the liner in the area of suspected leakage and sample potentially impacted soil. If soil remediation levels are exceeded, the permittee shall, within 60 days notify the Department and submit an action plan for the Department's approval before implementing the plan.
4. If there is no evidence of holes, tears, or defective seams that could have leaked:
   a. Cover the liner in place or remove it for disposal or reuse if the impoundment is an excavated impoundment,
   b. Remove and dispose of the liner elsewhere if the impoundment is bermed, and
   c. Grade the facility to prevent the impoundment of water.
5. Notify the Department within 60 days following closure that the action plan has been implemented and the closure is complete.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-D305. 3.05 General Permit: Disposal Wetlands

A. A 3.05 General Permit allows discharges of reclaimed water into constructed or natural wetlands, including waters of the United States, waters of the state, and riparian areas, for disposal. This general permit does not apply if the purpose of the wetlands is to provide treatment.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the name and individual permit number of the facility providing the reclaimed water.

C. Design requirements. An applicant shall:
1. Ensure that the reclaimed water released into the wetland meets numeric and narrative Aquifer Water Quality Standards for all parameters except for coliform bacteria and is Class A+ reclaimed water. A+ reclaimed water is wastewater that has undergone secondary treatment established under R18-9-B204(B)(1), filtration, and meets a total nitrogen concentration less than 10 mg/l and fecal coliform limits under R18-9-B204(B)(4)(b);
2. Maintain a minimum horizontal separation of 100 feet between any water supply well and the maximum wetted area of the wetland;
3. Post signs at points of access and every 250 feet along the perimeter of the wetland stating, "CAUTION. THESE WETLANDS CONTAIN RECLAIMED WATER. DO NOT DRINK." The applicant shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol; and
4. Ensure that wetland siting is consistent with local zoning and land use requirements.

D. Operational requirements.
1. A permittee shall manage the wetland to minimize vector problems.
2. The permittee shall submit to the Department and implement a Best Management Practices Plan for operation of the wetland. The Best Management Practices Plan shall include:
   a. A site plan showing the wetland footprint, point of inflow, storm water drainage, and placement of vegetation;
   b. Management of flows into and through the wetland to minimize erosion and damage to vegetation;
   c. Management of visitation and use of the wetlands by the public;
   d. A management plan for vector control;
   e. A plan or criteria for enhancing or supplementing of wetland vegetation; and
   f. Management of shallow groundwater conditions on existing on-site wastewater treatment facilities.
3. The permittee shall perform quarterly inspections to review bank integrity, erosion evidence, the condition of signage and vegetation, and correct any problem noted.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built drawings, if available; and

2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements. The permittee shall provide the Department with an annual assessment of the biological condition of the wetland, including the volume of inflow to the wetland in the past year.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-D306. 3.06 General Permit: Constructed Wetlands to Treat Acid Rock Drainage at Mining Sites

A. A 3.06 General Permit allows the operation of constructed wetlands that receive, with the intent to treat, acid rock drainage from a closed facility.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit a design, including information on the quality of the influent, the treatment process to be used, the expected quality of the wastewater, and the nutrients and other constituents that will indicate wetland performance.

C. Design, construction, and installation. An applicant shall:
1. Ensure that:
   a. Water released into the wetland is compatible with construction materials and vegetation;
   b. Water released from the wetland meets numeric Aquifer Water Quality Standards, pH is between 6.0 and 9.0, and sulfate concentration is less than 1000 mg/l; and
   c. Water released from the wetland complies with and is released under an individual permit and a National Pollution Discharge Elimination System Permit, if required.
2. Construct the treatment wetland with a liner, using low hydraulic conductivity artificial liner material, site-specific liner material, or both, to achieve a calculated seepage rate of less than 550 gallons per acre per day. The applicant shall:
   a. Ensure that, if an artificial liner material is used, such as geomembrane, the material is underlain by at least six inches of prepared and compacted subgrade;
   b. Anchor the liner along the perimeter of the wetland; and
   c. Manage the plants in the wetland to prevent species with root penetration that impairs liner performance.
3. Design the treatment wetland for optimum:
   a. Sizing appropriate for the anticipated treatment,
   b. Cell configuration,
   c. Vegetative species composition, and
   d. Berm configuration.
4. Construct and locate the treatment wetland so that it:
   a. Maintains physical integrity during a 100-year, 24-hour storm event; and
   b. Operates properly during a 25-year, 24-hour storm event.
5. Ensure that the bottom of the treatment wetland is at least 20 feet above the seasonal high groundwater table.
6. If public access to the wetland is anticipated or encouraged, post signs at points of access and every 250 feet along the perimeter of the wetland stating, "CAUTION. THESE WETLANDS CONTAIN MINE DRAINAGE WATER. DO NOT DRINK." The permittee shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol.

D. Operational requirements.
1. The permittee shall monitor the water leaving the wetlands at least quarterly for the standards specified in subsection (C)(1)(b). Monitoring shall include nutrients or other constituents used as indicators of wetland performance.
2. The permittee shall submit to the Department and implement a Best Management Practices Plan for operation of the wetland. The Best Management Practices Plan shall include:
   a. A site plan showing the wetland footprint, point of inflow, storm water drainage, and placement of vegetation;
   b. A contingency plan to address problems, including treatment performance, wash-out and vegetation die-off, and a plan to apply for an individual permit if the wetland is unable to achieve the treatment standards in subsection (C)(1)(b) on a continued basis;
   c. Management of flows into and through the wetland to minimize erosion and damage to vegetation;
   d. A description of the measures for restricting access to the wetlands by the public;
   e. A management plan for vector control; and
   f. A plan or criteria for enhancing or supplementing wetland vegetation.
3. The permittee shall perform quarterly inspections to review the bank and liner integrity, erosion evidence, and the condition of signage and vegetation, and correct any problems noted.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built drawings, if available; and
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements.
1. If preliminary laboratory result indicates that the quality of the water leaving the wetlands does not meet the standards specified in subsection (C)(1)(b), the permittee may request that the laboratory re-analyze the sample before reporting the results to the Department. The permittee shall:
   a. Conduct verification sampling within 15 days of receiving final laboratory results,
   b. Conduct verification sampling only for parameters that are present in concentrations greater than the standards specified in subsection (C)(1)(b), and
   c. Notify the Department in writing within five days of receiving final laboratory results.
2. If the final laboratory result confirms that the quality of the water leaving the wetlands does not meet the standards in subsection (C)(1)(b), the permittee shall implement the contingency plan required by subsection (D)(2)(b) and notify the Department that the plan is being implemented.
3. The permittee shall provide the Department with an annual assessment of the biological condition of the wetland, including the volume of inflow to the wetland in the past year.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-D307. 3.07 General Permit: Tertiary Treatment Wetlands

A. A 3.07 General Permit allows constructed wetlands that receive with the intent to treat, discharges of reclaimed water that meet the secondary treatment level requirements specified in R18-9-B204(B)(1).

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. The name and individual permit number of any facility that provides the reclaimed water to the wetland;
2. The name and individual permit number of any facility that receives water released from the wetland;
3. The design of the wetland construction and management project, including information on the quality of the influent, the treatment process, and the expected quality of the wastewater;
4. A Best Management Practices Plan that includes:
   a. A site plan showing the wetland footprint, point of inflow, storm water drainage, and placement of vegetation;
   b. A contingency plan to address any problem. including treatment performance, wash-out, and vegetation die-off;
   c. A management plan for flows into and through the wetland to minimize erosion and damage to vegetation;
   d. A description of the measures for restricting access to the wetlands by the public;
   e. A management plan for vector control; and
   f. A plan or criteria for enhancing or supplementing wetland vegetation.

C. Design requirements. An applicant shall:
1. Release water from the wetland under an individual permit and a National Pollution Discharge Elimination System permit, if required. The applicant shall release water from the wetland only to a direct reuse site if the site is permitted to receive reclaimed water of the quality generated under the individual permit specified in subsection (B)(1);
2. Construct and locate the treatment wetland so that it:
   a. Maintains physical integrity during a 100-year, 24-hour storm event, and
   b. Operates properly during a 25-year, 24-hour storm event.
3. Ensure that the bottom of the treatment wetland is at least 20 feet above the seasonal high groundwater table;
4. Maintain a minimum horizontal separation of 100 feet between any water supply well and the maximum wetted area of the wetland;
5. Maintain a minimum 1000 foot setback between the property boundary at the site and the maximum wetted area of the wetland;
6. Fence the wetland area to prevent unauthorized access;
7. Post signs at points of access stating "CAUTION. THESE WETLANDS CONTAIN RECLAIMED WATER, DO NOT DRINK." The applicant shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol;
8. Construct the treatment wetland with a liner using low hydraulic conductivity artificial liner material, site-specific liner material, or both, to achieve a calculated seepage rate of less than 550 gallons per acre per day. The applicant shall:
   a. Ensure that if an artificial liner material is used, such as geomembrane, the material is underlain by at least six inches of prepared and compacted subgrade;
   b. Anchor the liner along the perimeter of the wetland; and
   c. Manage the plants in the wetland to prevent species with root penetration that impairs liner performance.
9. Calculate the size and depth of the wetland so that the rate of flow allows adequate treatment detention time. The applicant shall design the wetland with at least two parallel treatment cells to allow for efficient system operation and maintenance;
10. Ensure that the wetland vegetation includes cattails, bulrush, common reed, or other species of plants with high pollutant treatment potential to achieve the intended water quality identified in subsection (B)(3); and
11. Ensure that construction and operation of the wetlands is consistent with local zoning and land use requirements.

D. Operational requirements. The permittee shall:
1. Implement an approved Best Management Practices Plan;
2. Monitor wastewater leaving the treatment wetland to ensure that discharge water quality meets the intended treatment specified in subsection (A)(3). The permittee shall ensure that analyses of wastewater samples are conducted by a laboratory certified by the Department of Health Services, following the Department's Quality Assurance/Quality Control requirements;
3. Follow the prescribed measures as required in the contingency plan under subsection (B)(4)(b) and report to the Department within five days if verification sampling demonstrates that an alert level or discharge limit is exceeded;
4. Inspect the wetlands at least quarterly for bank and liner integrity, erosion evidence, and condition of signage and vegetation, and correct any problem discovered; and
5. Ensure that the wetland is operated by a certified operator.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built drawings, if available; and
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements. The permittee shall provide the Department with an annual assessment of the biological condition of the wetland including the volume of inflow to the wetland in the past year.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

PART E. TYPE 4 GENERAL PERMITS

R18-9-E301. 4.01 General Permit: Sewage Collection Systems

A. A 4.01 General Permit allows a new sewage collection system or an expansion of an existing sewage collection system involving new construction.
1. A sewer collection system includes all sewer lines and associated structures, devices, and appurtenances that:
   a. Are owned or controlled by a public or private sewer utility extending from the treatment works to the upstream points in the system where private owners assume ownership or control; or
   b. Serve multiple private users from the upstream points where the individual users assume ownership

or control to the downstream point where the sewer delivers wastewater to a sewage collection system owned or controlled by a public or private sewer utility, or to a sewage treatment facility.

2. A sewer collection system repair is not an expansion of the system that requires a Notice of Intent to Discharge. Repairs include work performed in response to deterioration of existing structures, devices, and appurtenances with the intent to maintain or restore the system to its original operational characteristics.

B. Performance. An applicant shall design, construct, and operate a sewage collection system so that it:

1. Provides adequate wastewater flow capacity for the planned service;
2. Minimizes sedimentation, blockage, and erosion through maintenance of proper flow velocities throughout the system;
3. Prevents sanitary sewer overflows through appropriate sizing, capacities, and inflow and infiltration prevention measures throughout the system;
4. Protects water quality through minimization of exfiltration losses from the system;
5. Provides for adequate inspection, maintenance, testing, visibility, and accessibility; and
6. Maintains system structural integrity.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the following information:

1. A statement, signed by the owner or operator of the sewage treatment facility that treats or processes the sewage from the proposed sewer collection system.
   a. The owner or operator shall affirm that the additional volume of wastewater delivered to the facility by the proposed sewer collection system will not cause any flow or effluent quality limits of the individual permit for the facility to be exceeded.
   b. If the facility is classified as a groundwater protection permit facility under A.R.S. § 49-241.01(C), or if no flow or effluent limits are applicable, the owner or operator shall affirm that the design flow of the facility will not be exceeded.
2. If the proposed sewage collection system delivers wastewater to a downstream sewer collection system under different ownership or control, a statement, signed by the owner or operator of the downstream sewer collection system, affirming that the downstream system can maintain the performance required by subsection (B) if it receives the increased flows associated with the new system or the expansion;
3. A general site plan showing the boundaries and key aspects of the project;
4. Construction quality drawings that provide overall details of the site and the engineered works comprising the project including:
   a. Relevant plans and profiles of sewer lines, force mains, manholes, and lift stations with sufficient detail to allow Department verification of design and performance characteristics;
   b. Relevant cross sections showing construction details and elevations of key components of the sewer collection system to allow Department verification of design and performance characteristics, including the slope of each gravity sewer segment stated as a percentage; and
   c. Drainage features and controls, and erosion protection as applicable, for the components of the project.
5. Documentation of design flows for significant components of the sewage collection system and the basis for calculating the design flows;
6. An operation and maintenance plan if the project has a design flow of more than 10,000 gallons per day;
7. Drawings, reports, and other information that are clear, reproducible, and in a size and format specified by the Department. The applicant may submit the drawings in a Department-approved electronic format; and
8. Design documents, including plans, specifications, drawings, reports, and calculations that are signed and sealed by an Arizona-registered professional engineer unless prohibited by law. The designer shall use good engineering judgement following engineering standards of practice, and rely on appropriate engineering methods, calculations, and guidance.

D. Design requirements.

1. General Provisions. An applicant shall ensure that the design, installation, and testing of a new sewage collection system or an expansion to an existing sewage collection system involving new construction complies with the following rules. An applicant shall:
   a. Base design flows for components of the system on unit flows specified in Table 1, Unit Daily Design Flows. If documented by the applicant, the Department may accept lower unit flow values in the served area due to significant use of low flow fixtures.
   b. Use the "Uniform Standard Specifications for Public Works Construction," referenced in this Section and published by the Maricopa Association of Governments, revisions through 2000, or the "Pima County Wastewater Management," November 1994 Edition, as the applicable design and construction criteria, unless the Department approved alternative design standards or specifications authorized by a delegation agreement under A.R.S. § 49-107.
   c. Use gravity sewer lines, if appropriate. The applicant shall design gravity sewer lines and all other sewer collection system components, including force mains, manholes, lift stations, and appurtenant devices and structures to accommodate maximum sewage flows as determined by the method specified in subsections (D)(1)(c)(i) or (D)(1)(c)(ii) that yields the greatest calculated flow:
      i. Any point in a sewer main when flowing full can accommodate an average flow of 100 gallons per capita per day for all populations upstream from that point, or
      ii. Any point in a sewer collection system can accommodate a peak flow for all populations upstream from that point as tabulated below:

Upstream Population	Peaking Factor
100	3.62
200	3.14
300	2.90
400	2.74
500	2.64
600	2.56
700	2.50
800	2.46
900	2.42
1000	2.38
1001 to 10,000	$PF = (6.330 \times p^{-0.231}) + 1.094$
10,001 to 100,000	$PF = (6.177 \times p^{-0.233}) + 1.128$
More than 100,000	$PF = (4.500 \times p^{-0.174}) + 0.945$
PF = Peaking Factor p = Upstream Population	

d. Ensure the separation of sewage collection system components from drinking water distribution system components under R18-4-502.
e. Request review and approval of an alternative to a design feature specified in this Section by following the requirements of R18-9-A312(G).

2. Gravity sewer lines. An applicant shall:
   a. Ensure that any sewer line that runs between manholes, if not straight, is of constant horizontal curvature with a radius of curvature not less than 200 feet;
   b. Cover each sewer line with at least three feet of backfill meeting the requirements of subsection (D)(2)(h)(i). The applicant shall:
      i. Include at least one note specifying this requirement in construction plans;
      ii. If site-specific limitations prevent three feet of earth cover, provide the maximum cover attainable, and construct the sewer line of ductile iron pipe or other materials of equivalent or greater tensile and compressive strength;
      iii. If ductile iron pipe is not used, design and construct the sewer line pipe with restrained joints or an equivalent feature; and
      iv. Ensure that the design of the pipe and joints can withstand crushing or shearing from any expected load. Construction plans shall note locations requiring these measures.
   c. If sewer lines cross floodways, place the lines at least two feet below the 100-year storm scour depth and construct the lines using ductile iron pipe or pipe with equivalent tensile strength, compressive strength, shear resistance, and scour protection. The applicant shall ensure that sewer lines constructed in this manner extend at least 10 feet beyond the boundary of the 100-year storm scouring. Construction plans shall note locations requiring these measures.
   d. Ensure that each sewer line is eight inches in diameter or larger except:
      i. The first 400 feet of a dead end sewer line with no potential for extension may be six inches in diameter if the design flow criteria specified in subsection (D)(1)(c) are met. If the line is ever extended, the applicant seeking the extension shall replace the entire length with larger pipe to accommodate the new design flow; or
      ii. The sewer lines for a sewage collection system for a manufactured home, mobile home, or recreational vehicle park are not less than four-inches in diameter for up to 20 units, five-inches in diameter for 21 to 36 units, and six-inches in diameter for 37 to 60 units.
   e. Design sewer lines with at least the minimum slope calculated from Manning's Formula using a coefficient of roughness of 0.013 and a sewage velocity of two feet per second when flowing full.
      i. An applicant may request a smaller minimum slope under R18-9-A312(G) if the smaller slope is justified by a quarterly program of inspections, flushings, and cleanings.
      ii. If a smaller minimum slope is requested, the slope shall not be less than 50% of that calculated from Manning's formula using a coefficient of roughness of 0.013 and a sewage velocity of two feet per second.
   f. Design sewer lines to avoid a slope that creates a sewage velocity greater than 10 feet per second. The applicant shall construct any sewer line carrying a flow with a normal velocity of greater than 10 feet per second using ductile iron pipe or pipe with equivalent erosion resistance, and structurally reinforce the receiving manhole or sewer main.
   g. Design and install sewer lines, connections, and fittings with materials that meet or exceed manufacturer's specifications not inconsistent with this Chapter to:
      i. Limit inflows, infiltration, and exfiltration;
      ii. Resist corrosion in the project electrochemical environment;
      iii. Withstand anticipated live and dead loads; and
      iv. Provide internal erosion protection.
   h. Indicate trenching and bedding details applicable for each pipe material and size in the design plans. Sewer lines shall be placed in trenches and bedded following the specifications established in subsections (D)(2)(h)(i) and (D)(2)(h)(ii). This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, Arizona 85003, or from Pima County Wastewater Management, 201 N. Stone Avenue, Tucson, Arizona 85701-1207.
      i. "Trench Excavation, Backfilling, and Compaction" (Section 601), published in the "Uniform Standard Specifications for Public Works Construction," published by the Maricopa Association of Governments, revisions through 2000; and
      ii. "Rigid Pipe Bedding for Sanitary Sewers" (WWM 104), and "Flexible Pipe Bedding for Sanitary Sewers" (WWM 105), published by Pima County Wastewater Management, revised November 1994.
   i. Perform a deflection test of the total length of all sewer lines made of flexible materials to ensure that the installation meets or exceeds the manufacturer's recommendations and record the results.

j. Test each segment of the sewer line for leakage using the applicable method below and record the results:
   i. "Standard Test Method for Installation of Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air" published by the American Society for Testing and Materials, (F 1417-92), reapproved 1998;
   ii. "Standard Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method" published by the American Society for Testing and Materials, (C 924-89), reapproved 1997;
   iii. "Standard Test Method for Low-Pressure Air Test of Vitrified Clay Pipe Lines" published by the American Society for Testing and Materials, (C 828-98), approved March 10, 1998; or
   iv. The material listed in subsections (D)(2)(j)(i), (D)(2)(j)(ii), and (D)(2)(j)(iii) is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959.

k. Test the total length of the sewer line for uniform slope by lamp lighting, remote camera or similar method approved by the Department, and record the results.

3. Manholes.
   a. An applicant shall install manholes at all grade changes, all size changes, all alignment changes, all sewer intersections, and at any location necessary to comply with the following spacing requirements:

Sewer Pipe Diameter (inches)	Maximum Manhole Spacing (feet)
4 to less than 8	300
8 to less than 18	500
18 to less than 36	600
36 to less than 60	800
60 or greater	1300

   b. The Department shall allow greater manhole spacing following the procedure provided in R18-9-A312(G) if documentation is provided showing the operator possesses or has available specialized sewer cleaning equipment suitable for the increased spacing.
   c. The applicant shall ensure that manhole design is consistent with "Pre-cast Concrete Sewer Manhole" (#420), "Offset Manhole for 8" - 30" Pipe" (#421), and "Brick Sewer Manhole and Cover Frame Adjustment" (#422), 1998, including revisions through 2000, published by the Maricopa Association of Governments; and "Manholes and Appurtenant Items" (WWM 201 through WWM 211), Standard Details for Public Improvements, 1994 Edition, published by Pima County Wastewater Management.
   d. The material specified in subsection (D)(3)(c) is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, Arizona 85003, or from Pima County Wastewater Management, 201 N. Stone Avenue, Tucson, Arizona 85701-1207.
   e. The applicant shall not locate manholes in areas subject to more than incidental runoff from rain falling in the immediate vicinity unless the manhole cover assembly is designed to restrict or eliminate storm water inflow.
   f. The applicant shall test manholes using one of the following test protocols:
      i. Watertightness testing by filling the manhole with water. The applicant shall ensure that the drop in water level does not exceed 0.001 of total manhole volume in one hour.
      ii. Air pressure testing using the "Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test," published by the American Society for Testing and Materials, (C 1244-93), approved August 15, 1993. This material is incorporated by reference, does not include any later amendments or editions of the incorporated matter, and is on file with the Office of the Secretary of State. The material may be viewed at the Department of Environmental Quality, Water Quality Division, or obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959.
   g. The applicant shall perform manhole testing under subsection (D)(3)(f) after installation of the manhole cone to verify watertightness of the manhole from the top of the cone down.
      i. Upon satisfactory test results, the applicant shall install the manhole ring and any spacers, complete the joints, and seal the manhole to a watertight condition.
      ii. If the manhole cone, spacers, and ring can be installed to final grade without disturbance or adjustment by later construction, the applicant may perform the testing from the top of the manhole ring on down.
   h. The applicant shall locate a manhole to provide adequate visibility and vehicular maintenance accessibility after the manhole has been built.

4. Force mains. If it is impractical to install a gravity sewer line system, an applicant may install a force main if it meets the following design, installation, and testing requirements. The applicant shall:
   a. Design force mains to maintain a minimum flow velocity of three feet per second and a maximum flow velocity of seven feet per second.
   b. Ensure that force mains have the appropriate valves and controls required to prevent drainback to the lift station. If drainback is necessary during cold weather to prevent freezing, the control system may allow manual or automatic drainback.
   c. Incorporate air release valves or other appropriate components in force mains at all high points along the line to eliminate air accumulation. If engineering calculations provided by the applicant demonstrate that air will not accumulate in a given high point

under typical flow conditions, the Department shall waive the requirement for an air release valve.

d. Provide thrust blocks or restrained joints if needed to prevent excessive movement of the force main. Construction plans shall show thrust block or restrained joint locations and details. The documentation submitted to the Department for verification of the general permit shall include calculations and analysis of water hammer potential and surge control measures and shall be signed and sealed by an Arizona-registered professional engineer.

e. If a force main is proposed to discharge directly to a sewage treatment facility without entering a flow equalization basin, include in the Notice of Intent to Discharge a statement from the owner or operator of the sewage treatment facility that the design is acceptable.

f. Design a force main to withstand, and upon completion test the force main for leakage, at a pressure of 50 pounds per square inch or more above the design working pressure.

g. Supply flow to a force main using a lift station that meets the requirements of subsection (D)(5).

5. Lift stations. An applicant shall:

a. Secure a lift station to prevent tampering and affix on its exterior, or on the nearest vertical object if the lift station is entirely below grade, at least one warning sign that includes the 24-hour emergency phone number of the owner or operator of the collection system;

b. Protect lift stations from physical damage from a 100-year flood event. Construction of a lift station is prohibited in a floodway;

c. Lift station wet well design. The applicant shall:

i. Ensure that the minimum wet well volume in gallons shall be 1/4 of the product of the minimum pump cycle time, in minutes, and the total pump capacity, in gallons per minute;

ii. Protect the wet well against corrosion to provide at least a 20-year design life;

iii. Ensure that wet well volume does not allow the sewage retention time to exceed 30 minutes unless the sewage is aerated, chemicals are added to prevent or eliminate hydrogen sulfide formation, or adequate ventilation is provided. Notwithstanding these measures, the applicant shall not allow the septic condition of the sewage to adversely affect downstream collection systems or sewage treatment facility performance;

iv. Ensure that excessively high or low levels of sewage in the wet well trigger an audible or visual alarm at the wet well site and at the system control center; and

v. Ensure that a wet well designed to accommodate more than 5000 gallons per day has a horizontal open cross-sectional area of at least 20 square feet.

d. Equip a lift station wet well with at least two pumps. The applicant shall ensure that:

i. The pumps are capable of passing a 2.5-inch sphere or are grinder pumps;

ii. The lift station is capable of operating at design flow with any one pump out of service; and

iii. Piping, valves, and controls are arranged to allow independent operation of each pump.

e. Not use suction pumps if the sewage lift is more than 15 feet. The applicant shall ensure that other types of pumps are self-priming and that pump water brake horsepower is at least 0.00025 times the product of the required discharge, in gallons per minute, and the required total dynamic head, in feet;

f. For safety during operation and maintenance, design lift stations to conform with all applicable state and federal confined space requirements; and

g. For lift stations receiving an average flow of more than 10,000 gallons per day, include a standby power source in the lift station design that may be put into service immediately and remain available for 24 hours per day.

E. Additional Verification of General Permit Conformance requirements. An applicant shall:

1. Supply a signed and sealed Engineer's Certificate of Completion, unless prohibited by law, in a format approved by the Department that provides the following:
   a. Confirmation that the project was completed in compliance with the requirements of this Chapter, as described in the plans and specifications corresponding to the Provisional Verification of General Permit Conformance issued by the Director, or with changes that are reflected in as-built plans submitted with the Engineer's Certificate of Completion;
   b. As-built plans, if required, that are properly identified and numbered; and
   c. Confirmation of satisfactory test results from deflection, leakage, and uniform slope testing.
2. Provide any other relevant information required by the Department to determine that the facility conforms to the terms of this general permit; and
3. If the project has a design flow of more than 10,000 gallons per day, provide a final operation and maintenance plan that includes the 24-hour emergency number of the owner or operator of the system.

F. Operation and maintenance requirements.

1. The permittee of a sewage collection system that includes a force main and lift station or that has a design flow of more than 10,000 gallons per day shall maintain, and revise as needed, an operation and maintenance plan for the system at the system control center.
2. The permittee shall ensure that the operation and maintenance plan is the basis for operation and continuing maintenance of the sewer collection system.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E302. 4.02 General Permit: Septic Tank With Disposal by Trench, Bed, Chamber Technology, or Seepage Pit, Less Than 3000 Gallons Per Day Design Flow

A. A 4.02 General Permit allows for a system consisting of a septic tank dispensing wastewater to an approved means of disposal described in this Section. Only gravity flow of wastewater from the septic tank to the disposal field is authorized by this general permit.

1. The standard septic tank and disposal field design specified in this general permit is intended to serve most sites where no site limitations are identified by the site investigation conducted under R18-9-A310.
2. If site conditions allow, this general permit authorizes the discharge of wastewater from a septic tank meeting the requirements of R18-9-A314 to one of the following disposal fields:

a. Shallow trench,
b. Deep trench,
c. Bed,
d. Disposal field using chamber technology, or
e. Seepage pit.

B. Performance. An applicant shall design a system consisting of a septic tank and one of the disposal fields listed in subsection (A)(2) on the basis that treated wastewater released to the native soil meets the following criteria:
1. TSS of 75 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 150 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000,000 (Log_{10} 8) colony forming units per 100 milliliters, 95th percentile.

C. Design and installation requirements.
1. General provisions. The applicant shall:
   a. Ensure that the septic tank meets the requirements specified in R18-9-A314;
   b. Before placing aggregate or drain lines in a prepared excavation, remove all smeared or compacted surfaces from trenches by raking to a depth of one inch and removing loose material. The applicant shall:
      i. Place aggregate in the trench to the depth and grade specified in subsection (C)(2);
      ii. Place the drain pipe on aggregate and cover it with aggregate to the minimum depth specified in subsection (C)(2); and
      iii. Cover the aggregate with landscape filter material, geotextile, or similar porous material to prevent filling of voids with earth backfill.
   c. Use a grade board stake placed in the trench to the depth of the aggregate if the distribution line is constructed of drain tile or flexible pipe that will not maintain alignment without continuous support;
   d. If two or more drain lines are installed, install a distribution box approved by the Department of sufficient size to receive all lateral lines and flows at the head of each disposal field. The applicant shall:
      i. Ensure that the inverts of all outlets are level and the invert of the inlet is at least one inch above the outlets;
      ii. Design distribution boxes to ensure equal flow and install the boxes on a stable level surface such as a concrete slab or native or compacted soil; and
      iii. Protect concrete distribution boxes from corrosion by coating them with an appropriate bituminous coating, constructing the boxes with concrete that has a 15 to 18% fly ash content, or by using other allowable means.
   e. Construct all lateral pipes running from a distribution box to the disposal field with watertight joints and ensure that multiple disposal field laterals, wherever practical, are of uniform length;
   f. Lay pipe connections between the septic tank and a distribution box on natural ground or compact fill and construct the pipe connections with watertight joints;
   g. Construct steps within distribution line trenches or beds, if necessary, to maintain a level disposal pipe on sloping ground. The lines between each horizontal section shall be constructed with watertight joints and installed on natural or unfilled ground; and
   h. Ensure that a disposal field consisting of trenches, beds, chamber technology, or seepage pits is not paved over or covered by concrete or any material that can reduce or inhibit possible evaporation of wastewater through the soil to the land surface.
2. Shallow and deep trenches.
   a. The applicant may, in computing the trench bottom absorption, include a trench sidewall area between 12 and 36 inches below the distribution line.
   b. The applicant shall ensure that trench bottoms are level. The applicant shall calculate trench sizing for shallow and deep trenches from the soil absorption rate specified under R18-9-A312(D).
   c. The following design criteria for shallow and deep trenches apply:

Shallow and Deep Trenches	**Minimum**	**Maximum**
Number of trenches	1 (2 are recommended)	----
Length of trench	----	100 feet
Bottom width of trench	12 inches	36 inches
Depth of cover over distribution pipe	9 inches	24 inches[1]
Aggregate material under pipe	12 inches	----
Aggregate material over pipe	2 inches	2 inches
Slope of distribution pipe	Level	Level
Distribution pipe diameter	3 inches	4 inches
Spacing of distribution pipe	2 times effective depth[2] or five feet, whichever is greater	----

Notes:
1. For more than 24 inches, SDR 35 or equivalent strength pipe is required.
2. The distance between the bottom of the distribution pipe and the bottom of the trench bed.

3. Beds. An applicant shall:
   a. If a bed is installed instead of a trench, ensure that the area of each bed is at least 50% greater than the tabular dimensions required for a trench. The applicant may, in computing the bed bottom absorption area, include a perimeter sidewall area between 12 and 36 inches below the distribution line.
   b. Ensure that the bottom of a bed is level and calculate bed sizing from the soil absorption rate as specified by R18-9-A312(D).
   c. The following design criteria for beds apply:

Gravity Beds	**Minimum**	**Maximum**
Number of distribution pipes	2	—
Length of bed	—	100 feet
Distance between pipes	4 feet	6 feet
Width of bed	10 feet	12 feet
Distance from pipe to sidewall	3 feet	3 feet
Depth of cover over pipe	9 inches	14 inches
Aggregate material under pipe	12 inches	—
Aggregate material over pipe	2 inches	2 inches
Slope of distribution pipe	Level	Level
Distribution pipe diameter	3 inches	4 inches

4. Disposal field using chamber technology. An applicant shall:
   a. If leaching chambers are proposed instead of trenches or beds installed with distribution pipes, calculate an equivalent effective chamber absorption area to size the disposal field area and the number of chambers needed. The effective absorption area of each chamber is calculated as follows:
      $A = (1.43 \times B \times L) + (2 \times V \times L)$
      i. "A" is the effective absorption area of each chamber,
      ii. "B" is the nominal width of the open bottom absorption surface of the chamber,
      iii. "V" is the vertical height of the chamber sidewall, and
      iv. "L" is the length of the chamber.
   b. Calculate the disposal field size and number of chambers from the effective absorption area of each chamber and the soil absorption rates specified in R18-9-A312(D), taking care to use the appropriate value, depending on whether the proposed chamber installation is shallow or deep. Example calculations for effective chamber absorption area, disposal field size, and number of required chambers are on file with the Department.
   c. Ensure that the sidewall of the chamber provides at least 35% open area for sidewall credit and that the design and construction minimizes the movement of fines into the chamber area. The use of filter fabric or geotextile against the sidewall openings is prohibited.
5. Seepage pits. The applicant shall:
   a. If allowed by R18-9-A311, design a seepage pit to comply with R18-9-A312(E)(1) for minimum vertical separation distance;
   b. Ensure that multiple seepage pit installations are served through a distribution box approved by the Department or connected in series with a watertight connection laid on undisturbed or compacted soil. The applicant shall ensure that the outlet from the pit has a sanitary tee with the vertical leg extending at least 12 inches below the inlet;
   c. Ensure that each seepage pit is circular and has an excavated diameter of four to six feet. The applicant may use the alternative design procedure specified in R18-9-A312(G) for a proposed seepage pit more than six feet in diameter;
   d. For a gravel filled seepage pit, backfill the entire pit with aggregate. The applicant shall ensure that each pit has a breather conductor pipe that consists of a perforated pipe at least four inches in diameter, placed vertically within the backfill of the pit. The pipe shall extend from the bottom of the pit to within 12 inches below ground level;
   e. For a lined, hollow seepage pit, lay a concrete liner or a liner of a different approved material in the pit on a firm foundation and fill excavation voids behind the liner with at least nine inches of aggregate;
   f. For the cover of a lined seepage pit use an approved one or two piece reinforced concrete slab with a minimum compressive strength of 2500 pounds per square inch. The applicant shall ensure that the cover:
      i. Is at least five inches thick and designed to support an earth load of at least 400 pounds per square foot;
      ii. Has a 12 inch square or diameter minimum access hole with a plug or cap that is coated on the underside with an approved bituminous seal, constructed of concrete with 15% to 18% fly ash content, or made of other nonpermeable protective material; and
      iii. Has a four inch or larger inspection pipe placed vertically not more than six inches below ground level;
   g. Ensure that the top of the seepage pit cover is four to 18 inches below the surface of the ground;
   h. Install a vented inlet fitting in every seepage pit to prevent flows into the seepage pit from damaging the sidewall.
      i. An applicant may use a 1/4 bend fitting placed through an opening in the top of the slab cover if a one or two piece concrete slab cover inlet is used; or
      ii. For multiple seepage pit installations, an applicant shall install the outlet fittings following a reference design drawing on file with the Department.
   i. Bore seepage pits five feet deeper than the proposed pit depth to verify underlying soil characteristics and backfill the five feet of overdrill with low permeability drill cuttings or other suitable material;
   j. Backfill seepage pits that terminate in gravelly, coarse sand zones five feet above the beginning of the zone with low permeability drill cuttings or other suitable material;
   k. Determine the minimum sidewall area for a seepage pit from the design flow and the soil absorption rate derived from the testing procedure described in R18-9-A310(F). The effective absorption surface for a seepage pit is the sidewall area only. The sidewall area is calculated by the following formula:
      $A = 3.14 \times D \times H$
      i. "A" is the minimum sidewall area in square feet needed for the design flow and soil absorption rate for the installation;
      ii. "D" is the diameter of the proposed seepage pit in feet;
      iii. "H" is the vertical height in feet in the seepage pit through which wastewater infiltrates native soil. The applicant shall ensure that H is at least 10 feet for any seepage pit.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E303. 4.03 General Permit: Composting Toilet, Less Than 3000 Gallons Per Day Design Flow

A. A 4.03 General Permit allows a composting toilet.
1. Definition. For purposes of this Section, a "composting toilet" means a treatment technology that receives human waste from a waterless toilet directly into an aerobic composting tank where dehydration and biological activity reduce the volume and the content of nutrients and harmful microorganisms to an appropriate level for later disposal at the site or elsewhere.
2. An applicant shall use a composting toilet system only if a wastewater system or gray water system is used to accommodate wastewater that does not originate from toilets.
3. An applicant may use a composting toilet if:

a. Limited water availability prevents use of other types of on-site wastewater treatment facilities,
b. Environmental constraints prevent the discharge of wastewater or nutrients to a sensitive area,
c. Inadequate space prevents use of other systems, or
d. Severe site limitations exist that make other forms of treatment or disposal unacceptable.

B. Restrictions. An applicant shall:
1. Not install a composting toilet if the composting chamber temperature cannot be maintained between 60° F and 70° F or for any seven day average the temperature of the chamber is less than 55° F or greater than 80° F, and
2. Ensure that a composting toilet system receives only human excrement.

C. Performance. An applicant shall ensure that a composting toilet:
1. Prevents discharge of blackwater to the native soil through containment in the composting toilet system,
2. Manages gray water as provided in this Article or under 18 A.A.C., and
3. Prevents vectors.

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge specified in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit:
1. The name and address of the composting toilet system manufacturer;
2. A copy of the manufacturer's warranty, installation, and operation and maintenance plans;
3. The product model number;
4. The rate of composting and capacity calculations.
5. Documentation of listing by a national listing organization indicating that the composting toilet meets the stated manufacturer's specifications for loading, treatment performance, and operation;
6. The method of vector control; and
7. The calculation of waste volume and planned method for disposing of the composted human excrement residue.

E. Design requirements. An applicant shall:
1. Ensure that the composting tank is double-walled for leak protection;
2. Ensure that the composting tank has airtight seals to prevent odor or toxic gas from escaping into the building. The system may be vented to the outside;
3. Base the rate of composting and capacity calculations on the lowest monthly average tank temperature, unless a temperature control device is installed;
4. Unless a temperature control device is installed, ensure that the capacity of the composting facility provides adequate storage for all waste produced during the months when the average temperature is below 55° F, if the manufacturer allows operation at this temperature; and
5. Dispose of the composted product at the end of the treatment process as provided under 18 A.A.C. 8 and 18 A.A.C. 13.

F. Operation and maintenance requirements. A permittee shall:
1. Provide adequate mixing, ventilation, temperature control, moisture, and bulk to reduce fire hazard and prevent anaerobic conditions;
2. If consistent with this Chapter, follow the manufacturer's recommendations regarding use of an organic bulking agent to control liquid drainage, promote aeration, or provide additional carbon;
3. If consistent with this Chapter, follow the manufacturer's recommendations for operation, maintenance, and recordkeeping regarding rotating tines used to control the movement of material to the bottom of the composting chamber;
4. If batch system containers are mounted on a carousel, place a new container in the toilet area if the previous one is full;
5. Ensure that only human waste, paper approved for septic tank use, and the amount of bulking material required for proper maintenance is introduced to the composting tank. The applicant shall immediately remove all other materials or trash. If allowed by the manufacturer's specifications and consistent with this Chapter, other nonliquid compostable residues, such as fruit and vegetable peels, may be added to the toilet;
6. Ensure that liquid end product that does not evaporate is sprayed back onto the composting waste material or removed by a permitted or licensed waste hauler;
7. Remove and dispose of composted waste, at least annually, using a permitted or licensed waste hauler if the waste is not placed in a disposal area for burial;
8. Before ending use for an extended period take measures to assure that moisture is maintained to sustain bacterial activity and free liquids in the tank do not freeze; and
9. After an extended period of non-use, empty the composting tank of solid end product and inspect all mechanical components to verify that the mechanical components are operating as designed.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E304. 4.04 General Permit: Pressure Distribution System, Less Than 3000 Gallons Per Day Design Flow

A. A 4.04 General Permit allows pressurized distribution of wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
1. Definition. For purposes of this Section, a "pressure distribution system" means a tank, pump, controls, and piping that conducts wastewater under pressure in controlled amounts and intervals to a disposal field, bed, trench, or other means of disposal authorized by a general permit for an on-site wastewater treatment facility.
2. An applicant may use a pressure distribution systems if a gravity flow system is unsuitable, inadequate, unfeasible, or cost prohibitive because of site limitations or other conditions or if needed to optimally disperse wastewater to some types of disposal systems.

B. Performance. An applicant shall ensure that a pressure distribution system:
1. Has Department-approved dispersing components that provide proper dispersal of wastewater so that loading rates are optimized for the particular system, and
2. Prevents ponding on the land surface.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit:
1. A copy of operation, maintenance, and warranty materials for the principal components; and
2. A copy of dosing specifications, including pump curves, dispersing component curves, and float switch settings.

D. Design requirements.
1. An applicant shall ensure that pumps:
a. Are rated for effluent service by the manufacturer and certified by Underwriters Laboratories,
b. Achieve the minimum design flow rate and total dynamic head requirements for the particular site, and

c. Incorporate a quick disconnect using compression-type unions for pressure connections. The applicant shall ensure that:
   i. Quick-disconnects are accessible in the pressure piping, and
   ii. A pump has adequate lift attachments for removal and replacement of the pump and switch assembly without entering the dosing tank.

2. Switches, controls, alarms, and electrical components. An applicant shall ensure that:
   a. Switches and controls accommodate the minimum and maximum dose capacities of the distribution network design. Pressure diaphragm level control switches are prohibited;
   b. Controls designed for fail-safe treatment or flow equalization functions are field-tested to assure compliance with the design and operation specifications. The applicant shall include counters or flow meters if critical to control functions, such as timed dosing;
   c. Control panels and alarms:
      i. Are mounted in an exterior location visible from the dwelling,
      ii. Provide manual pump switch and alarm test features, and
      iii. Include written instructions covering standard operation and alarm events.
   d. Audible and visual alarms are used for all critical control functions, such as pump failures, treatment failures, and excess flows. The applicant shall ensure that:
      i. The visual portion of the signal is conspicuous from a distance 50 feet from the system and its appurtenances,
      ii. The audible portion of the signal is between 70 and 75 db at 5 feet and is discernible from a distance of 50 feet from the system and its appurtenances, and
      iii. Alarms, test features, and controls are on a non-dedicated electrical circuit associated with a frequently used household lighting fixture and separate from the dedicated circuit for the pump.
   e. All electrical wiring complies with the National Electrical Code, 1999 Edition, published by the National Fire Protection Association. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101. The applicant shall ensure:
      i. Connections are made using National Electrical Manufacturers Association (NEMA) 4x junction boxes certified by Underwriters Laboratories; and
      ii. All controls are in NEMA 3r, 4, or 4x enclosures for outdoor use.

3. Dosing tanks and wastewater distribution components. An applicant shall:
   a. Design dosing tanks to withstand anticipated internal and external loads under full and empty conditions, and design concrete tanks to meet the "Standard Specification for Precast Concrete Water and Wastewater Structures," published by the American Society for Testing and Materials, (C 913-98), approved December 10, 1998. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959;
   b. Design dosing tanks to be easily accessible and have secured covers;
   c. Install risers to provide access to the inlet and outlet of the tank and to service internal components;
   d. Ensure that the volume of the dosing tank accommodates bottom depth below maximum drawdown, maximum design dose, including any drainback, volume to high water alarm, and a reserve volume above the high water alarm level that is not less than the daily design flow volume. If the tank is time dosed, the applicant shall ensure that the combined surge capacity and reserve volume above the high water alarm is not less than the daily design flow volume; and
   e. Ensure that dosing tanks are watertight and anti-buoyant.

E. Installation requirements. An applicant may use a septic tank second compartment or a second septic tank in series as a dosing tank if all dosing tank requirements of this Section are met and a screened vault is used instead of the septic tank effluent filter. An applicant shall:
1. Install switches, controls, alarms, and electrical components for easy access for routine monitoring and maintenance; and
2. Compact berms around the disposal area to 85% and ensure that the berms are adequate to retain wastewater and rainwater from a 10-year, 24-hour rainfall event within the disposal field.

F. Additional Verification of General Permit Conformance requirements. An installer shall provide copies of instructions for the critical controls of the system to the homeowner and the Department before issuance of the Verification of General Permit Conformance.

G. Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, a permittee shall ensure that:
1. The operation and maintenance plan for the on-site wastewater treatment facility that supplies the wastewater to the pressure distribution system specifies inspection and maintenance needed for the following items:
   a. Sludge level in the bottom of the treatment and dosing tanks,
   b. Watertightness,
   c. Condition of electrical and mechanical components, and
   d. Piping and other components functioning within design limits.
2. All critical control functions are specified in the Operation and Maintenance Plan for testing to demonstrate compliance with design specifications, including:
   a. Alarms, test features, and controls;
   b. Float switch level settings;
   c. Dose rate, volume, and frequency, if applicable;
   d. Distal pressure or squirt height, if applicable; and

e. Voltage test on pumps, motors, and controls, as applicable.

3. The finished grade is observed and maintained for proper surface drainage. The applicant shall observe the levelness of the tank for differential settling. If there is settling, the applicant shall grade the facility to maintain surface drainage.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E305. 4.05 General Permit: Gravelless Trench, Less Than 3000 Gallons Per Day Design Flow

A. A 4.05 General Permit allows a gravelless trench receiving wastewater treated to a quality equal to or better than that provided by a 4.02 General Permit septic tank. This general permit authorizes the discharge of wastewater from a septic tank that meets the requirements of R18-9-A314 to the gravelless pipe system described in this Section.

1. Definition. For purposes of this Section, a "gravelless trench" means a disposal technology characterized by installation of a proprietary pipe, chamber, and geocomposite or other substitute media into native soil instead of the distribution pipe and aggregate fill used in a conventional disposal field trench.
2. A permittee may use a gravelless trench if suitable gravel or volcanic rock aggregate is unavailable, excessively expensive, or if adverse site conditions make movement of gravel difficult, damaging, or time consuming.

B. Performance. An applicant shall design a gravelless trench on the basis that treated wastewater released to the native soil meets the following criteria:

1. TSS of 75 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 150 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
4. Total coliform level of 100,000,000 (Log_{10} 8) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit the following:

1. The soil absorption area that is required if a conventional disposal field trench filled with aggregate is used,
2. The configuration and size of the proposed gravelless disposal field, and
3. The manufacturer's installation instructions and warranty of performance for absorbing wastewater into the native soil.

D. Design requirements. An applicant shall:

1. Ensure that the top of the gravelless disposal pipe or similar disposal mechanism is at least six inches below the surface of the native soil and 12 to 36 inches below finished grade if approved fill is placed on top of the installation;
2. Calculate the infiltration surface as follows:
   a. For eight inch diameter pipe, two square feet of absorption area is allowed per linear foot;
   b. For 10 inch diameter pipe, three square feet of absorption area is allowed per linear foot;
   c. For bundles of two pipes of the same diameter, the absorption area is calculated as 1.67 times the absorption area of one pipe; and
   d. For bundles of three pipes of the same diameter, the absorption area is calculated as 2.00 times the absorption area of one pipe.
3. Use a pressure distribution system meeting the requirements of R18-9-E304 in medium sand, coarse sand, and coarser soils; and
4. Construct the drainfield of material that will not decay, deteriorate, or leach chemicals or byproducts if exposed to sewage or the subsurface soil environment.

E. Installation requirements. An applicant shall:

1. Install the gravelless pipe material according to manufacturer's instructions if the instructions are consistent with this Chapter,
2. Ensure that the installed disposal system can withstand the physical disturbance of backfilling and the load of any soil cover above natural grade placed over the installation, and
3. Shape any backfill and soil cover in the area of installation to prevent settlement and ponding of rainfall for the life of the disposal field.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313, the permittee shall inspect the finished grade in the vicinity of the gravelless disposal field for maintenance of proper drainage and protection from damaging loads.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E306. 4.06 General Permit: Natural Seal Evapotranspiration Bed, Less Than 3000 Gallons Per Day Design Flow

A. A 4.06 General Permit allows a natural seal evapotranspiration bed receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank. This general permit authorizes the discharge of wastewater from a septic tank that meets the requirements of R18-9-E314 to the general permitted disposal feature described in this Section.

1. Definition. For purposes of this Section, a "natural seal evapotranspiration bed" means a disposal technology characterized by a bed of sand or other durable media with an internal wastewater distribution system, contained on the bottom and sidewalls by an engineered liner consisting of natural soil and clay materials.
2. An applicant may use a natural seal evapotranspiration bed if site conditions restrict soil infiltration or require reduction of the volume or nitrogen content of wastewater discharged to the native soil underlying the natural seal liner.

B. Restrictions. Unless a person provides design documentation to show that a natural seal evapotranspiration bed will properly function, the person shall not install this technology if:

1. Average minimum temperature in any month is 20° F or less,
2. Over 1/3 of the average annual precipitation falls in a 30-day period, or
3. Design flow exceeds net evaporation.

C. Performance. An applicant shall ensure that a natural seal evapotranspiration bed:

1. Minimizes discharge to the native soil through the natural seal liner,
2. Maximizes wastewater disposed to the atmosphere by evapotranspiration, and
3. Prevents ponding of wastewater on the bed surface and maintains an interval of unsaturated media directly beneath the bed surface.

D. Reference design.

1. An applicant may design and install a natural seal evapotranspiration bed with the performance required in sub-

section (C), following a reference design on file with the Department.

2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's Notice of Intent to Discharge.

E. Alternative design. An applicant may submit an alternative to the reference design for a natural seal evapotranspiration bed that achieves the performance requirements specified in subsection (C) by following requirements specified in R18-9-A312(G).

1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's Notice of Intent to Discharge.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E307. 4.07 General Permit: Lined Evapotranspiration Bed, Less Than 3000 Gallons Per Day Design Flow

A. A 4.07 General Permit allows a lined evapotranspiration bed receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank. This general permit authorizes the discharge of wastewater from a septic tank that meets the requirements of R18-9-E314 to the general permitted disposal feature described in this Section.

1. Definition. For purposes of this Section, a "lined evapotranspiration bed" means a disposal technology characterized by a bed of sand or other durable media with an internal wastewater distribution system contained on the bottom and sidewalls by an impervious synthetic liner.
2. An applicant may use a lined evapotranspiration bed if site conditions restrict soil infiltration or require reduction or elimination of the volume or nitrogen content of wastewater discharged to the native soil.

B. Restrictions. Unless a person provides design documentation to show that a lined evapotranspiration bed will properly function, the person shall not install this technology if:

1. Average minimum temperature in any month is 20° F or less,
2. Over 1/3 of average annual precipitation falls in a 30-day period, or
3. Design flow exceeds net evaporation.

C. Performance. An applicant shall ensure that a lined evapotranspiration bed:

1. Prevents discharge to the native soil by a synthetic liner,
2. Attains full disposal of wastewater to the atmosphere by evapotranspiration, and
3. Prevents ponding of wastewater on the bed surface and maintains an interval of unsaturated media directly beneath the bed surface.

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:

1. Capillary rise potential test results for the media used to fill the evapotranspiration bed, unless sand meeting a D_{50} of 0.1 millimeter (50% by weight of grains equal to or smaller than 0.1 millimeter in size) is used; and
2. Water mass balance calculations used to size the evapotranspiration bed.

E. Design requirements. An applicant shall:

1. Ensure that the evapotranspiration bed is from 18 to 36 inches deep and calculate the bed design on the basis of the capillary rise of the bed media, according to the "Standard Test Method for Capillary-Moisture Relationships for Coarse- and Medium-Textured by Porous-Plate Apparatus," published by the American Society for Testing and Materials, (D 2325-68), reapproved 1994^{E1}, and the anticipated maximum frost depth. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959;
2. Base design area calculations on a water mass balance for the winter months;
3. Ensure that the evapotranspiration bed liner is a low hydraulic conductivity synthetic liner that has a calculated seepage rate of less than 550 gallons per acre per day;
4. If a surfacing layer is used, use topsoil, dark cinders, decomposed granite, or similar landscaping material placed to a maximum depth of two inches. The applicant shall ensure that:
   a. The topsoil is a fertile, friable soil obtained from well-drained arable land, and is free of nut grass, refuse, roots, heavy clay, clods, noxious weeds, or any other material toxic to plant growth; and
   b. The pH factor does not exceed 8.0 or fall lower than 5.5, soluble salts do not exceed 1500 milligrams per liter, the plasticity index is in the range of three and 15 inclusive, and the soil contains approximately 1 1/2% organic matter, by dry weight, either natural or added. The applicant shall ensure that material used for the surfacing layer meets the following gradation:

Sieve Size	Percent Passing
1"	100
1/2"	95-100
No. 4	90-100
No. 10	70-100
No. 200	15-70

5. Use shallow-rooted, non-invasive, salt and drought tolerant evergreens if vegetation is planted on the evapotranspiration bed;
6. Install at least one observation port to allow determination of the depth to the liquid surface of wastewater within the evapotranspiration bed;
7. Design the bed to pump out the saturated zone if accumulated salts or a similar condition impairs bed performance. Provision of a reserve area is not required for a lined evapotranspiration bed; and
8. Instead of the minimum vertical separation required under R18-9-A312(E), ensure that the minimum vertical separation from the bottom of the evapotranspiration bed liner to the surface of the water table or impervious layer or formation is at least 12 inches.

F. Installation requirements. An applicant shall ensure that:

1. All liner seams are factory fabricated or field welded according to manufacturer's specifications not inconsistent with this Chapter. The applicant shall ensure that:
   a. The liner covers the bottom and all sidewalls of the bed and is cushioned on the top and bottom with layers of sand at least two inches thick or other equivalently protective material, and

b. If the inlet pipe passes through the liner, the joint is tightly sealed.

2. The liner is leak tested under the supervision of an Arizona-registered professional engineer,

3. A two- to four-inch layer of one-half to one inch gravel or crushed stone is placed around the distribution pipes within the bed. The applicant shall place filter cloth on top of the gravel or crushed stone to prevent sand from settling into the crushed stone or gravel.

G. Additional Verification of General Permit Conformance requirements. An applicant shall submit the sealed results of the liner test to the Department before issuance of the Verification of General Permit Conformance.

H. Operation and maintenance requirements.

1. Irrigation of an evapotranspiration bed is not allowed.
2. A permittee shall protect the bed from vehicle loads and other damaging activities.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E308. 4.08 General Permit: Wisconsin Mound, Less Than 3000 Gallons Per Day Design Flow

A. A 4.08 General Permit allows a Wisconsin mound receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.

1. Definition. For purposes of this Section, a "Wisconsin mound" means a disposal technology characterized by:
   a. An above-grade bed system that blends with the land surface into which is dispensed pressure dosed wastewater from a septic tank or other upstream treatment device,
   b. Dispersal of wastewater under unsaturated flow conditions through the engineered media system contained in the mound, and
   c. Wastewater treated by passage through the mound before percolation into the native soil below the mound.
2. An applicant may use a Wisconsin mound if the native soil has excessively high or low permeability, there is little native soil overlying fractured or excessively permeable rock, or a reduction in minimum vertical separation is desired.

B. Performance. An applicant shall design a Wisconsin mound on the basis that treated wastewater released to the native soil meets the following criteria:

1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
4. Total coliform level of 300,000 (Log_{10} 5.5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:

1. Specifications for the internal wastewater distribution system media proposed for use in the Wisconsin mound;
2. Two scaled or dimensioned cross sections of the mound (1 of the shortest basal area footprint dimension and one of the lengthwise dimension); and
3. Design calculations following the "Wisconsin Mound Soil Absorption System: Siting, Design, and Construction Manual," published by the University of Wisconsin - Madison, January 1990 Edition. This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the University of Wisconsin - Madison, SSWMP, 1525 Observatory Drive, Room 345, Madison, WI 53706.

D. Design requirements. An applicant shall ensure that:

1. Pressure dosed wastewater is delivered into the Wisconsin mound through a pressurized line and secondary distribution lines into an engineered aggregate infiltration bed, or equivalent system, in conformance with R18-9-E304 and the Wisconsin Mound Manual. The applicant shall ensure that the aggregate is washed;
2. Wastewater is distributed in the aggregate infiltration bed and applied to the mound bed inlet surface at the following rates:
   a. Not more than 1.0 gallon per day per square foot of mound bed inlet surface if the mound bed media conforms with the "Standard Specification for Concrete Aggregates," (C 33-99a^{E1}), published by the American Society for Testing and Materials, approved July 10, 1999, and the Wisconsin Mound Manual, except if cinder sand is used that is the appropriate grade with not more than 5% passing a #200 screen. The Standard Specification for Concrete Aggregates," (C 33-99a^{E1}), approved July 10, 1999, is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959. The applicant shall:
      i. For cinder sand, ensure that the rate is not more than 0.8 gallons per day per square foot of mound bed inlet surface; and
      ii. Wash media used for the mound bed.
   b. A rate, configuration, or material for the infiltration bed or the mound bed submitted under R18-9-A312(G). The applicant shall ensure that the submittal includes supporting analyses for the design configuration, materials, and loading rates.
3. The aggregate infiltration bed and mound bed is capped by coarser textured soil, such as sand, sandy loam, or silt loam. Silty clay, clay loam, or clays are prohibited;
4. The cap material is covered by topsoil following the Wisconsin Mound Manual, and the topsoil is capable of supporting vegetation, is not clay, and is graded to drain;
5. The top and bottom surfaces of the aggregate infiltration bed are level and do not exceed 10 feet in width. The applicant shall ensure that:
   a. The minimum depth of the aggregate infiltration bed is nine inches, or
   b. Synthetic filter fabric permeable to water and air and capable of supporting the cap and topsoil load is placed on the top surface of the aggregate infiltration bed.
6. The minimum depth of mound bed media is 12 inches;
7. The maximum allowable side slope of the mound bed, cap material, and topsoil is not more than one vertical to three horizontal;
8. Ports for inspection and monitoring are provided to verify performance, including verification of unsaturated flow within the aggregate infiltration bed. The applicant shall:

a. Install a vertical PVC pipe and cap with a minimum diameter of four inches as an inspection port, and
b. Install the pipe with a physical restraint to maintain pipe position.

9. The main pressurized line and secondary distribution lines for the aggregate infiltration bed are equipped at appropriate locations with cleanouts to grade;
10. Setbacks specified in R18-9-A312(C) are observed, except that the applicant shall:
    a. Increase setbacks for the following downslope features at least 30 feet from the toe of the mound system:
        i. Property line,
        ii. Driveway,
        iii. Building,
        iv. Ditch or interceptor drain, or
        v. Any other feature that impedes water movement away from the mound.
    b. Ensure that no upslope natural feature or improvement channels surface water or groundwater to the mound area.
11. The active portion of the basal area of native soil below the mound conforms to the Wisconsin Mound Manual. The applicant shall:
    a. Calculate the absorption of wastewater into the native soil for only the effective basal area;
    b. Apply the soil application rates specified in R18-9-A312(D). The allowable loading rate to the mound bed inlet surface may be increased up to 1.6 times if the wastewater dispersed to the mound is pretreated to reduce the sum of TSS and BOD_5 to 60 mg/l or less. The soil application rate may be increased to not more than 0.20 gallons per day per square foot of effective basal area if the following slowly permeable soils underlie the mound:
        i. Sandy clay loam, clay loam, silty clay loam or finer with weak platy structure; or
        ii. Sandy clay loam, clay loam, silty clay loam or silt loam with massive structure.
12. The slope of the native soil at the basal area does not exceed 25%, and a slope stability analysis is performed whenever the basal area or site slope within 50 horizontal feet from the mound system footprint exceeds 15%.

E. Installation. An applicant shall:
1. Prepare native soil for construction of a Wisconsin mound system. The applicant shall:
    a. Mow vegetation and cut down trees in the vicinity of the basal area site to within two inches of the surface;
    b. Leave in place tree stumps and other herbaceous material that excessively alters the soil structure if removed after mowing and cutting;
    c. Plow native soil serving as the basal area footprint along the contours to seven to eight inches depth;
    d. Not substitute rototilling for plowing; and
    e. Begin mound construction immediately after plowing.
2. Place each layer of the bed system to prevent differential settling and promote uniform density; and
3. Use the Wisconsin Mound Manual to guide any other detail of installation. Installation procedures and criteria may vary depending on mound design but shall be at least equivalent to the Wisconsin Mound Manual.

F. Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, the permittee shall:
1. If an existing mound system shows evidence of overload or hydraulic failure, consider the following measures:
    a. Verification of actual loading and performance of the pretreatment system and verification of the watertightness of the pretreatment and dosing tanks;
    b. Determination of dosing rates and dosing intervals to the aggregate infiltration bed and comparison with the original design to evaluate the presence or absence of saturated conditions in the aggregate infiltration bed;
    c. If the above steps do not indicate an anomalous condition, evaluation of the site and recalculation of the disposal capability to determine if lengthening of the mound is feasible;
    d. Site modifications including, changing surface drainage patterns at upgrade locations and lowering the groundwater level by installing interceptor drains to reduce native soil saturation at shallow levels; and
    e. Increasing the basal area, which is most efficient if the bed length is increased.
2. If the mound needs to be expanded in size, submit a new Notice of Intent to Discharge for this modification; and
3. Specify servicing and waste disposal procedures and task schedules necessary for clearing the main pressurized wastewater line and secondary distribution lines, septic tank effluent filter, pump intake, and controls.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E309. 4.09 General Permit: Engineered Pad System, Less Than 3000 Gallons Per Day Design Flow

A. A 4.09 General Permit allows an engineered pad system receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
1. Definition. For purposes of this Section, the "engineered pad system" means a disposal technology characterized by:
    a. The delivery of treated wastewater by gravity or pressure distribution to the engineered pad and sand bed assembly, which then disperses the wastewater into the native soil;
    b. Passage of the treated wastewater through a pad and engineered sand bed by gravity under unsaturated flow conditions; and
    c. Provision of additional passive biological treatment to the wastewater and reduced biomat formation at the inlet absorption surface of the underlying native soil.
2. The applicant may use an engineered pad system if:
    a. The native soil is excessively permeable,
    b. There is little native soil overlying fractured or excessively permeable rock, or
    c. The available area is limited for installing a disposal field system authorized by R18-9-E302.

B. Performance. An applicant shall ensure that:
1. Any proprietary engineered pad system previously approved by the Department is designed on the basis that the released treated wastewater to the native soil meets the following criteria:
    a. TSS of 50 milligrams per liter, 30-day arithmetic mean;
    b. BOD_5 of 50 milligrams per liter, 30-day arithmetic mean;

c. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
d. Total coliform level of 1,000,000 (Log_{10} 6) colony forming units per 100 milliliters, 95th percentile.

2. Any engineered pad not previously approved by the Department is designed on the basis that the treated wastewater released to the native soil does not exceed the performance values specified for the systems described in R18-9-E302. If an applicant wishes to use different performance values, the Department shall review the system as established under R18-9-A309(E).

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit design materials and construction specifications for the engineered pad system.

D. Design requirements. An applicant shall ensure that:

1. Gravity and pressurized wastewater delivery is from a septic tank or intermediate watertight chamber equipped with a pump and controls. The applicant shall ensure that:
   a. Delivered wastewater is distributed onto the top of the engineered pad system and achieves even distribution by good engineering practice, and
   b. The dosing rate for pressurized wastewater delivery is at least four doses per day and no more than 24 doses per day.
2. The sand bed consists of mineral sand washed to conform to the "Standard Specification for Concrete Aggregates," (C 33-99a^{E1}), which is incorporated by reference in R18-9-E308(D)(2)(a), unless the performance testing and design specifications of the engineered pad manufacturer justify a substitute specification. The applicant shall ensure that:
   a. The sand bed design provides for the placement of at least six inches of sand bed material below and along the perimeter of each pad, and
   b. The sand bed contact with the native soil absorption system is level.
3. The wastewater distribution system installed on the top of the engineered pad system is covered with a breathable geotextile material that is itself covered with at least 10 inches of backfill.
   a. The applicant shall ensure that rocks and cobbles are removed from backfill cover and grade the backfill for drainage.
   b. The applicant may place the engineered pad system above grade, partially bury it, or bury it depending on site and service circumstances.
4. The engineered pad system is constructed with durable materials and capable of withstanding stress from installation and operational service; and
5. At least two inspection ports are installed in the engineered pad system to confirm unsaturated wastewater treatment conditions at diagnostic locations.

E. Installation requirements. In addition to the applicable requirements specified in R18-9-A313, an applicant shall place sand media to obtain a uniform density of 1.3 to 1.4 grams per cubic centimeter.

F. Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, an applicant shall inspect the backfill cover for physical damage or erosion and promptly repair the cover, if necessary.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4). Amended to correct a manifest typographical error in subsection (B)(2) (Supp. 01-1).

R18-9-E310. 4.10 General Permit: Intermittent Sand Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.10 General Permit allows an intermittent sand filter receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.

1. Definition. For purposes of this Section, an "intermittent sand filter" means a treatment technology characterized by:
   a. The pressurized delivery of pretreated wastewater to an engineered sand bed in a containment vessel equipped with an underdrain system or designed as a bottomless filter;
   b. Delivered wastewater dispersed throughout the sand media by periodic doses from the delivery pump to maintain unsaturated flow conditions in the bed; and
   c. Wastewater that is treated during passage through the media, collected by a bed underdrain chamber, and removed by pump or gravity to the disposal works, or wastewater that percolates downward directly into the native soil as part of a bottomless filter design.
2. An applicant may use an intermittent sand filter if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock, or
   c. Reduction in setback distances or minimum vertical separation is desired.

B. Performance. An applicant shall ensure that:

1. An intermittent sand filter with underdrain system is designed on the basis that it produces treated wastewater that meets the following criteria:
   a. TSS of 10 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 10 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 40 milligrams per liter, 5-month arithmetic mean; and
   d. Total coliform level or 1000 (Log_{10} 3) colony forming units per 100 milliliters, 95th percentile.
2. An intermittent sand filter with a bottomless filter design is designed on the basis that the treated wastewater released to the native soil meets the following criteria:
   a. TSS of 20 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
   d. Total coliform level of 100,000 (Log_{10} 5 colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit specifications for the media proposed for use in the intermittent sand filter.

D. Design requirements. An applicant shall ensure that:

1. Pressurized wastewater delivery is from the septic tank or separate watertight chamber with a pump sized and controlled to deliver the pretreated wastewater to the top of the intermittent sand filter. The applicant shall ensure that the dosing rate is at least four doses per day and not more than 24 doses per day;
2. The pressurized wastewater delivery system provides even distribution in the sand filter through good engineering practice. The applicant shall:

a. Specify all necessary controls, pipe, valves, orifices, filter cover materials, gravel, or other distribution media, and monitoring and servicing components in the design documents;
b. Ensure that the cover and topsoil is six to 12 inches in depth and graded to drain.

3. The sand filter containment vessel is watertight, structurally sound, durable, and capable of withstanding stress from installation and operational service. Intermittent sand filter placement may be above grade, partially buried, or fully buried depending on site and service circumstances;
4. Media used in the intermittent sand filter is mineral sand and that media is washed and conforms to "Standard Specification for Concrete Aggregates," (C 33-99a^{E1}), which is incorporated by reference in R18-9-E308(D)(2)(a);
5. The sand media depth is a minimum of 24 inches with the top and bottom surfaces level and the maximum wastewater loading rate is 1.2 gallons per day per square foot of inlet surface at the rated daily design flow;
6. The underdrain system:
   a. Is within the containment vessel;
   b. Supports the filter media and all overlying loads from the unsupported construction above the top surface of the sand media;
   c. Has sufficient void volume above normal high level of the intermittent sand filter effluent to prevent saturation of the bottom of the sand media by a 24-hour power outage or pump malfunction; and
   d. Includes necessary monitoring, inspection, and servicing features;
7. Inspection ports are installed in the distribution media and in the underdrain;
8. The bottomless filter is designed similar to the underdrain system, except that the sand media is positioned on top of the native soil absorption surface. The applicant shall ensure that companion modifications are made that eliminate the containment vessel bottom and underdrain and relocate the underdrain inspection port to ensure reliable indication of the presence or absence of water saturation in the sand media;
9. The native soil absorption system is designed to ensure that the linear loading rate does not exceed site disposal capability; and
10. The bottomless sand filter discharge rate per unit area to the native soil does not exceed the adjusted soil application rate for the quality of wastewater specified in subsection (B)(2).

E. Installation requirements. An applicant shall place the containment vessel, underdrain system, filter media, and pressurized wastewater distribution system in an excavation with adequate foundation and each layer installed to prevent differential settling and promote a uniform density throughout of 1.3 to 1.4 grams per cubic centimeter within the sand media.

F. Operation and maintenance requirements. The applicant shall follow the applicable requirements specified in R18-9-A313.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E311. 4.11 General Permit: Peat Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.11 General Permit allows a peat filter receiving wastewater treated to a quality equal to or better than that provided by a 4.02 General Permit septic tank.

1. Definition. For purposes of this Section, a "peat filter" means a disposal technology characterized by:
   a. The dosed delivery of treated wastewater to the peat bed, which can be a manufactured module or a disposal bed excavated in native soil and filled with compacted peat;
   b. Wastewater passing through the peat that is further treated by removal of positively charged molecules, filtering, and biological activity before entry into native soil; and
   c. If the peat filter system is constructed as a disposal bed filled with compacted peat, wastewater that is absorbed into native soil at the bottom and sides of the bed.
2. An applicant may configure a modular system if a portion of the wastewater that has passed through the peat filter is recirculated back to the pump chamber.
3. An applicant may use a peat filter system if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock,
   c. Reduction in setback distances or minimum vertical separation is desired, or
   d. Cold weather reduces effectiveness of other disposal sites.

B. Performance. An applicant shall ensure that a peat filter is designed on the basis that it produces treated wastewater that meets the following criteria:
1. TSS of 15 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 15 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. Specifications for the peat media proposed for use in the filter or provided in the peat module, including the porosity, surface area, and moisture content;
   a. A statement of whether the peat is air dried, and whether the peat is from sphagnum moss or bog cotton; and
   b. A description of the degree of decomposition.
2. Specifications for installing the peat media; and
3. If a peat module is used:
   a. The name and address of the manufacturer,
   b. The model number, and
   c. A copy of the manufacturer's warranty.

D. Design requirements.
1. If a pump tank is used to dose the peat module or bed, an applicant shall:
   a. Ensure that liquid volume meets or exceeds the calculated dose plus the required storage capacity and a reserve volume above the high water alarm to contain the daily design flow volume; and
   b. Use a control panel with a programmable timer to dose approximately 1/12 of the maximum daily design flow plus the drain-back, if applicable, every two hours.
2. Peat module system. The applicant shall:
   a. Size the gravel bed supporting the peat filter modules to allow it to act as a disposal field. The applicant shall ensure that the bed is level, long, and narrow, and installed on contour to optimize lateral movement away from the disposal area;

b. Ensure that the minimum module system size is adequate to treat 500 gallons per day. The applicant shall add modules to accommodate additional design flow;
c. For modules designed to allow wastewater flow through the peat filter and base material into underlying native soil, size the base on which the modules rest to accommodate the soil absorption rate of the native soil;
d. Place fill over the module so that it conforms to the manufacturer's specification if the specification is consistent with this Chapter. If the fill is planted, the applicant shall use only grass or shallow rooted plants; and
e. Ensure that the peat media depth is a minimum of 24 inches and the peat is installed with the top and bottom surfaces level. The applicant shall ensure that the maximum wastewater loading rate is 5.0 gallons per day per square foot of inlet surface at the rated daily design flow.

3. Peat filter bed system. The applicant shall ensure that:
a. The bed is filled with peat derived from sphagnum moss and compacted according to the installation specification;
b. The maximum wastewater loading rate is one gallon per day per square foot of inlet surface at the rated daily design flow;
c. At least 24 inches of installed peat underlies the distribution piping and 10 to 14 inches of installed peat overlies the piping;
d. The cover material over the peat filter bed is slightly mounded to promote runoff of rainfall. The applicant shall not place additional fill over the peat; and
e. The peat is derived from decomposed sphagnum moss or roots of the plant Eriophorum (bog cotton). The applicant shall ensure that the peat is air dried, with a porosity greater than 90%, and a surface area at least 190 square meters per gram.

E. Installation requirements. The applicant shall:
1. Peat module system.
a. Compact the bottom of all excavations for the filter modules, pump, aerator, and other components to provide adequate foundation, slope toward the discharge to minimize ponding, and ensure that the bottom is flat, and free of debris, rocks, and sharp objects. If the excavation is uneven or rocky, the applicant shall use a bed of sand or pea gravel to create an even, smooth surface;
b. Place the peat filter modules on a level, six inch deep gravel bed;
c. Place backfill around the modules and grade the backfill to divert surface water away from the modules;
d. Not place objects on or move objects over the system area that might damage the module containers or restrict airflow to the modules;
e. Cover gaps between modules to prevent damage to the system;
f. Fit each system with at least one sampling port that allows collection of wastewater at the exit from the final treatment module;
g. Provide the modules and other components with anti-buoyancy devices to ensure stability in the event of flooding or high water table conditions; and
h. Provide a mechanism for draining the filter module inlet line.

2. Peat filter bed system. The applicant shall:
a. Scarify the bottom and sides of the leaching bed excavation to remove any smeared surfaces. The applicant shall:
i. Unless directed by an installation specification consistent with this Chapter, place peat media in the excavation in six inch lifts; and
ii. Compact each lift before the next lift is added. The applicant shall take care to avoid compaction of the underlying native soil.
b. Lay distribution pipe in trenches cut in the compacted peat. The applicant shall:
i. Ensure that at least three inches of aggregate underlie the pipe to reduce clogging of holes or scouring of the peat surrounding the pipe, and
ii. Place peat on top of and around the sides of the pipes.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313, the permittee shall inspect the finished grade over the peat filter for proper drainage, protection from damaging loads, and root invasion of the wastewater distribution system and perform maintenance as needed.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E312. 4.12 General Permit: Textile Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.12 General Permit allows a textile filter receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
1. Definition. For purposes of this Section, a "textile filter" means a disposal technology characterized by:
a. The flow of wastewater into a packed bed filter in a containment structure or structures. The packed bed filter uses a textile filter medium with high porosity and surface area;
b. The textile filter medium provides further treatment by removing suspended material from the wastewater by physical straining, and reducing nutrients by microbial action.
2. An applicant may use a textile filter in conjunction with a two-compartment septic tank or a two-tank system if the second compartment or tank is used as a recirculation and blending tank. A portion of the wastewater flow from the textile filter shall be diverted back into the second tank for further treatment.
3. An applicant may use a textile filter if nitrogen reduction is desired or as an alternative to a sand filter if delivering sand with the required properties is difficult or expensive.

B. Performance. An applicant shall ensure that a textile filter is designed on the basis that it produces treated wastewater that meets the following criteria:
1. TSS of 15 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 15 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 30 milligrams per liter, five-month arithmetic mean, or 15 milligrams, five-month arithmetic mean per liter if documented under subsection (C)(4); and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. The name and address of the filter manufacturer;

2. The filter model number;
3. A copy of the manufacturer's filter warranty;
4. If the system is for nitrogen reduction to 15 milligrams per liter, five-month arithmetic mean, specifications on the nitrogen reduction performance of the filter system and corroborating third-party test data;
5. The manufacturer's operation and maintenance recommendations to achieve a 20-year life; and
6. If a pump or aerator is required for proper operation, the pump or aerator model number and a copy of the manufacturer's warranty.

D. Design requirements. An applicant shall ensure that:
1. The textile medium has a porosity of greater than 80%;
2. The wastewater is delivered to the textile filter by gravity flow or a pump;
3. If a pump tank is used to dose the textile module or modules, it meets the following criteria:
   a. Liquid volume equals or exceeds the calculated dose plus the required storage capacity and a reserve volume above the high water level alarm to contain the design flow volume, and
   b. A control panel with a programmable timer is used to dose approximately 1/12 of the maximum daily design flow (plus the drain-back if applicable) every two hours.

E. Installation requirements. An applicant shall:
1. Before placing the filter modules, slope the bottom of the excavation for the modules toward the discharge point to minimize ponding;
2. Ensure that the bottom of all excavations for the filter modules, pump, aerator, or other components is level and free of debris, rocks, and sharp objects. If the excavation is uneven or rocky, the applicant shall use a bed of sand or pea gravel to create an even, smooth surface;
3. Provide the modules and other components with anti-buoyancy devices to ensure they remain in place in the event of high water table conditions; and
4. Provide a mechanism for draining the filter module inlet line.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313, the permittee shall not flush corrosives or other materials known to damage the textile material into any drain that transmits wastewater to the on-site wastewater treatment facility.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E313. 4.13 General Permit: RUCK® System, Less Than 3000 Gallons Per Day Design Flow

A. A 4.13 General Permit allows residential applications for a RUCK® system.
1. Definition. For purposes of this Section a "RUCK® system" means a proprietary treatment and disposal system for residential applications that requires segregated drains for conducting dishwater, kitchen sink, and toilet flush water to a black water tank and all other wastewater to a gray water tank.
   a. Treated wastewater from each tank is delivered to a proprietary, engineered composite disposal bed system that includes an upper distribution pipe to deliver treated black water to a proprietary, columnar, sand-filled bed.
   b. The wastewater drains downward into a sand bed, then into a pea gravel bed with an internal distribution pipe system that delivers the treated gray water.
   c. The entire composite bed is constructed within an excavation about six feet deep.
   d. The system typically operates under gravity flow from the black water and gray water pretreatment tanks.
   e. A proprietary sampling assembly is installed at the midpoint of the disposal line run and at the base of the composite bed during construction to monitor system performance.
2. An applicant may use a RUCK® system, which is typically limited to soil conditions where a standard system described in R18-9-E302 is acceptable, if the total nitrogen content in the wastewater is reduced before release to the native soil.

B. Performance. An applicant shall ensure that a RUCK® system is designed on the basis that the treated wastewater released to the native soil meets the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 30 milligrams per liter, five-month arithmetic mean, or 15 milligrams per liter, five-month arithmetic mean, if demonstrated under subsection (D); and
4. Total coliform level of 1,000,000 (Log_{10} 6) colony forming units per 100 milliliters, 95th percentile.

C. Reference design. An applicant may design and install a RUCK® system achieving the performance requirements specified in subsection (B) by following a reference design on file with the Department. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

D. Alternative design. An applicant may submit an alternative design to the RUCK® system if, following the requirements in R18-9-A312(G), the design achieves equal or better performance than that specified in subsection (B).
1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.
3. If nitrogen reduction to a level from 15 to less than 30 milligrams per liter is proposed, the applicant shall ensure that the supplemental information includes specifications on system nitrogen reduction performance and corroborating third-party test data.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E314. 4.14 General Permit: Sewage Vault, Less Than 3000 Gallons Per Day Design Flow

A. A 4.14 General Permit allows a sewage vault that receives sewage.
1. An applicant pumping a sewage vault for disposal shall comply with state and local laws, rules, and ordinances.
2. An applicant may use a sewage vault if there is a severe site constraint that prevents a conventional septic tank and disposal field system or any other alternative provided by general permit from being installed.
3. An applicant may install a sewage vault as a temporary measure if the applicant will install another on-site wastewater treatment facility within two years.

B. Performance. An applicant shall not allow a discharge from a sewage vault to the native soil or land surface. The applicant shall dispose of vault contents at a sewage treatment facility or other sewage disposal mechanism allowed by law.

C. Restrictions. An applicant shall not install a sewage vault:
1. If a high groundwater table impinges on the vault;
2. Unless the applicant has a service contract from a licensed waste hauler to periodically pump out the vault; or
3. If the capacity of the vault is less than 450 gallons per bedroom or 75 gallons per fixture, whichever is larger.

D. Reference design.
1. An applicant may design and install a sewage vault that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed storage vault with the applicant's submittal of the Notice of Intent to Discharge.

E. Alternative design. An applicant may submit an alternative to the reference design for a sewage vault if, following the requirements in R18-9-A312(G), the design achieves the performance requirements in subsection (B).
1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed storage vault with the applicant's submittal of the Notice of Intent to Discharge.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E315. 4.15 General Permit: Aerobic System with Subsurface Disposal, Less Than 3000 Gallons Per Day Design Flow

A. A 4.15 General Permit allows for an aerobic system that consists of an aerator for treatment and a subsurface absorption field for disposal of treated wastewater.
1. Definition. For purposes of this Section, an "aerobic system with subsurface disposal" means the mechanical introduction of oxygen to wastewater, followed by clarification and pressure or gravity distribution to a subsurface soil absorption field.
2. An applicant may use an aerobic system with subsurface disposal if:
   a. Enhanced biochemical processing is needed to treat wastewater with high organic content,
   b. A soil condition is not adequate to allow installation of a standard septic tank and disposal field as prescribed in R18-9-E302,
   c. A highly treated and disinfected wastewater is needed, or
   d. Nitrogen removal is needed and the design meets other requirements of this general permit.

B. Performance. An applicant shall ensure that an aerobic system with subsurface disposal is designed on the basis that the treated wastewater released to the native soil meets the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean, or 15 milligrams, five-month arithmetic mean per liter if documented under subsection (C); and
4. Total coliform level of 300,000 (Log_{10} 5.5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. Evidence of performance specified in subsection (B);
2. The name and address of the treatment unit manufacturer;
3. The model number;
4. A copy of the manufacturer's warrantee and operation and maintenance recommendations to achieve performance for a 20-year life; and
5. If nitrogen reduction to a level from 15 to less than 53 milligrams per liter is proposed, specifications on system nitrogen reduction performance and corroborating third party test data.

D. Design requirements. An applicant shall ensure that the wastewater is delivered to the aerobic treatment unit by gravity flow either directly or by a lift pump. The Director shall require an interceptor or other pretreatment device if needed to meet the performance criteria specified in subsection (B) or the manufacturer recommends a device if a garbage disposal appliance is used.

E. Installation requirements. An applicant shall ensure that:
1. The installation of the aerobic treatment components conforms to manufacturer's specifications that are consistent with this Chapter and the design documents specified in the Provisional Verification of General Permit Conformance; and
2. Excavation and foundation work, and backfill placement is performed to prevent differential settling and adverse drainage conditions.

F. Operation and maintenance requirements. The permittee shall follow the applicable requirements in R18-9-A313.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E316. 4.16 General Permit: Aerobic System with Surface Disposal, Less Than 3000 Gallons Per Day Design Flow

A. A 4.16 General Permit allows an aerobic system that consists of an aerator for treatment and surface absorption field for disposal of treated wastewater.
1. Definition. For purposes of this Section, an "aerobic system with surface disposal" means:
   a. Mechanical introduction of oxygen to wastewater followed by clarification and disposal to the land surface, and
   b. The wastewater is disinfected using a technology authorized in R18-9-E320 before disposal to the land surface.
2. An applicant may use an aerobic system with surface disposal if:
   a. Enhanced biochemical processing is needed to treat wastewater with high organic content,
   b. A soil condition is not adequate to allow installation of a standard septic tank and disposal field as prescribed in R18-9-E302, or
   c. A highly treated and disinfected wastewater is needed.

B. Performance. An applicant shall ensure that an aerobic system with surface disposal is designed on the basis that the treated wastewater released to the native soil meets the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;

3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean;
4. A total coliform level of Log_{10} 0 colony forming units per 100 milliliters, 99th percentile. Disinfection is by a method established under R18-9-E320.

C. Additional requirements. An applicant shall:
1. Ensure that treated wastewater complies with any applicable National Pollution Discharge Elimination System permit limits;
2. Prevent discharge of inadequately treated wastewater to the environment by means of a fail-safe mechanism, included in the system design; and
3. Use sprinkler, bubbler heads, or other components that provide dispersal to optimize wastewater loading rates and prevent ponding on the land surface.

D. Reference design.
1. An applicant may design and install an aerobic system with surface disposal that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

E. Alternative design. An applicant may submit an alternative to the reference design for an aerobic system with surface disposal if, following the requirements in R18-9-A312(G), the design achieves the performance requirements in subsection (B).
1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E317. 4.17 General Permit: Cap System, Less Than 3000 Gallons Per Day Design Flow

A. A 4.17 General Permit allows a cap fill cover over a conventional shallow trench disposal field receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.
1. Definition. For purposes of this Section, a "cap system" means a disposal technology characterized by:
   a. A soil cap, consisting of engineered fill placed over a trench that is reduced in depth compared to a standard trench allowed by R18-9-E302; and
   b. A design that compensates for reduced trench depth by maintaining and enhancing the infiltration of wastewater into native soil through the trench sidewalls.
2. An applicant may use a cap system if there is little native soil overlying fractured or excessively permeable rock or a high water table does not allow the minimum vertical separation to be met by a system authorized by R18-9-E302.

B. Performance. An applicant shall ensure that the design soil absorption rate, disposal density, and vertical separation complies with this Chapter for a shallow trench, based on the following performance, unless additional pretreatment is provided:
1. TSS of 75 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 150 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000,000 (Log_{10} 8) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B), R18-9-A309(B), an applicant shall submit specifications for the proposed cap fill material.

D. Design requirements.
1. An applicant shall ensure that the soil texture from the natural grade to the depth of the layer or the water table that limits the soil for unsaturated wastewater flow is no finer than silty clay loam.
2. An applicant shall ensure that cap fill material used is free of debris, stones, frozen clods, or ice, and is the same as or one soil group finer than that of the disposal site material, except that fill material finer than clay loam shall not be used as an additive.
3. Trench construction. The applicant shall ensure that:
   a. The trench bottom is at least 12 inches below the bottom of the disposal pipe and not more than 24 inches below the natural grade, and the trench bottom and disposal pipe are level;
   b. The aggregate cover over the disposal pipe is two inches thick and the top of the aggregate cover is level and not more than nine inches above the natural grade;
   c. The cap fill cover above the top of the aggregate cover is at least nine inches but not more than 18 inches thick and has sloped sides not more than one vertical to three horizontal. The applicant shall ensure that:
      i. The horizontal extent of the finished fill edges is at least 10 feet beyond the nearest trench sidewall or endwall; and
      ii. Intersecting fill surfaces are sloped to route surface drainage around the ends of the trench.
   d. The criteria for trench length, bottom width and spacing, and disposal pipe size is the same as that for the shallow trench system prescribed in R18-9-E302;
   e. Permeable geotextile fabric is placed on the aggregate top, trench end, and sidewalls extending above natural grade;
   f. The native soil within the disposal site and the adjacent downgradient area to a 50 foot horizontal distance does not exceed a 12% slope if the top of the aggregate cover extends above the natural grade at any location along the trench length. The applicant shall ensure that the slope within the disposal site and the adjacent downgradient area to a 50 foot horizontal distance does not exceed 20% if the top of the aggregate cover does not extend above the natural grade;
   g. The fill material is compacted to a density of 90% of the native soil if the invert elevation of the disposal pipe is at or above the natural grade at any location along the trench length;
   h. At least one observation port is installed to the bottom of each cap fill trench;
   i. The effective absorption area for each trench is the sum of the trench bottom area and the sidewall area. The height of the sidewall used for calculating the sidewall area is the vertical distance between the

trench bottom and the lowest point of the natural land surface along the trench length;

j. The applicant may apply the correction factors for soil absorption rate under R18-9-A312(D)(3) and minimum vertical separation under R18-9-A312(E) if additional wastewater pretreatment is provided.

E. Installation requirements. An applicant shall prepare the disposal site when high soil moisture is not present and equipment operations do not create platy soil conditions. The applicant shall:

1. Plow or scarify the fill area to disrupt the vegetative mat while avoiding smearing,
2. Construct trenches as specified in subsection (D)(3),
3. Scarify the site and apply part of the cap fill to the fill area and blend the fill with the scarified native soil within the contact layers, and
4. Follow the construction design specified in the Provisional Verification of General Permit Conformance.

F. Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, the permittee shall inspect and repair the cap fill and other surface features as needed to ensure proper disposal function, proper drainage of surface water, and prevention of damaging loads on the cap.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E318. 4.18 General Permit: Constructed Wetland, Less Than 3000 Gallons Per Day Design Flow

A. A 4.18 General Permit allows a constructed wetland receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.

1. A constructed wetland is a treatment technology characterized by a lined excavation, filled with a medium for growing plants and planted with marsh vegetation. The treated wastewater flows horizontally through the medium in contact with the aquatic plants.
2. As the wastewater flows through the wetland system, additional treatment is provided by filtering, settling, volatilization, and evapotranspiration.
3. The wetland system allows microorganisms to break down organic material and plants to take up nutrients and other pollutants.
4. The wastewater treated by a wetland system is discharged to a subsurface soil disposal system.
5. A constructed wetland is considered if further wastewater treatment is needed before disposal.

B. Performance. An applicant shall ensure that a constructed wetland is designed on the basis that it produces treated wastewater that meets the following criteria:

1. TSS of 20 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 45 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Reference design.

1. An applicant may design and install a constructed wetland that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed constructed wetland with the applicant's submittal of the Notice of Intent to Discharge.

D. Alternative design. An applicant may submit an alternative to the reference design for a constructed wetland if, following the requirements under R18-9-A312(G), the design achieves the performance requirements in subsection (B).

1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed constructed wetland with the applicant's submittal of the Notice of Intent to Discharge.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E319. 4.19 General Permit: Sand Lined Trench, Less Than 3000 Gallons Per Day Design Flow

A. A 4.19 General Permit allows a sand lined trench receiving wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank.

1. Definition. For purposes of this Section, a "sand lined trench" means a disposal technology characterized by:
   a. Engineered placement of sand or equivalently graded glass in trenches excavated in native soil,
   b. Wastewater dispersed throughout the media by a timer-controlled pump in periodic uniform doses that maintain unsaturated flow conditions, and
   c. Wastewater treated during travel through the media and absorbed into the native soil at the bottom of the trench.
2. An applicant may use a sand lined trench if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock, or
   c. Reduction in setback distances, or minimum vertical separation is desired.

B. Performance. An applicant shall ensure that a sand lined trench is designed on the basis that treated wastewater released to the native soil meets the following criteria:

1. TSS of 20 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit specifications for the proposed media in the trench.

D. Design requirements.

1. An applicant shall ensure that media used in the trench is mineral sand, crushed glass, or cinder sand and that:
   a. The media conforms to "Standard Specifications for Concrete Aggregates," (C 33-99a^{E1}), which is incorporated by reference in R18-9-E308(D)(2)(a), "Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing," (C 117-95), approved March 15, 1995, or an equivalent approved method. This information is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Soci-

ety for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959; and

b. Sieve analysis complies with the "Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing," (C 117-95), which is incorporated by reference in subsection (D)(1)(a), or an equivalent approved method.

2. Trenches. The applicant shall ensure that:
   a. The spacing between trenches is at least two times the depth of the trench bottom below finished grade;
   b. The inlet filter media surface, wastewater distribution pipe, and bottom of the trench is level and the maximum effluent loading rate is not more than 1.0 gallon per day per square foot of sand media inlet surface;
   c. The depth of sand below the gravel layer containing the distribution system is at least 24 inches;
   d. The gravel layer containing the distribution system is five to 12 inches thick, at least 36 inches wide, and level;
   e. Permeable geotextile fabric is placed at the base of and along the sides of the gravel layer, as necessary. The applicant shall ensure that:
      i. Geotextile fabric is placed on top of the gravel layer, and
      ii. Any cover soil placed on top of the geotextile fabric is capable of maintaining vegetative growth while allowing passage of air.
   f. At least one observation port is installed to the bottom of each sand lined trench;
   g. If the trench is installed in excessively permeable soil or rock, at least one foot of loamy sand is placed in the trench below the filter media. The minimum vertical separation distance is measured from the bottom of the loamy sand; and
   h. The trench design is based on the design flow, native soil absorption area of the trench, minimum vertical separation below the trench bottom, design effluent infiltration rate at the top of the sand fill, and the adjusted soil absorption rate for the final effluent quality.
3. The applicant shall ensure that the dosing system consists of a timer-controlled pump, electrical components, and distribution network and that:
   a. Orifice spacing on the distribution piping does not exceed four square feet of media infiltrative surface area per orifice, and
   b. The dosing rate is at least four doses per day and not more than 24 doses per day.

E. Installation requirements. An applicant shall ensure that the filter media shall is placed in the trench to prevent differential settling and promote a uniform density throughout of 1.3 to 1.4 grams per cubic centimeter.

F. Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, the permittee shall ensure that:
1. The septic tank filter and pump tank are inspected and cleaned;
2. The dosing tank pump screen, pump switches, and floats are cleaned yearly and any residue is disposed of; and
3. Lateral lines are flushed and the liquid waste discharged into the treatment system headworks.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E320. 4.20 General Permit: Disinfection Devices, Less Than 3000 Gallons Per Day Design Flow

A. A 4.20 General Permit allows a disinfection device that receives wastewater from a septic tank or other treatment device of an on-site wastewater treatment facility, authorized by a general permit, and reduces the level of harmful microorganisms in the wastewater during passage through the device.
1. The disinfection device kills the microorganisms by exposing the wastewater to heat, radiation, or a chemical disinfectant.
2. Some means of disinfection require detention before discharge.
3. A disinfection device is considered if a reduction in harmful microorganisms, as measured by the total coliform level, is needed for surface or near surface disposal of the wastewater or if reduction of the minimum vertical separation distance specified in R18-9-A312(E) is desired.

B. Restrictions.
1. Unless designed to operate without electricity, an applicant shall not install a disinfection device if electricity is not permanently available at the site.
2. This general permit does not authorize a disinfection device that releases chemical disinfectants or disinfection byproducts harmful to plants or wildlife in the discharge area or causes a violation of an Aquifer Water Quality Standard.

C. Performance. An applicant shall ensure that:
1. The required performance of a disinfection device is dependent on the level of disinfection needed for a particular type of disposal; and
2. For an on-site device wastewater treatment facility with discharge to the land surface, the disinfection device in conjunction with all preceding treatment processes produces treated wastewater that meets the following criteria:
   a. A total coliform level of Log_{10} 0 colony forming units per 100 milliliters, 99th percentile;
   b. Dissolved oxygen content of at least six milligrams per liter;
   c. Clear and odorless appearance.

D. Operation and maintenance. A permittee shall:
1. If the disinfection device relies on the addition of chemicals for disinfection, ensure that the device is operated to minimize the discharge of disinfection chemicals while achieving the required level of disinfection; and
2. Incorporate a fail-safe mechanism to prevent inadequately treated wastewater from being discharged.

E. Reference design.
1. An applicant may design and install a disinfection device that achieves the performance requirements in subsection (C) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

F. Alternative design. A permittee may submit an alternative to the reference design for a disinfection device if, following the requirements in R18-9-A312(G), the design achieves the performance requirements in subsection (C).
1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed

system with the applicant's submittal of the Notice of Intent to Discharge.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E321. 4.21 General Permit: Sequencing Batch Reactor, Less Than 3000 Gallons Per Day Design Flow

A. A 4.21 General Permit allows a sequencing batch reactor that consists of at least two vessels, a receiving vessel, and a process vessel, in which the key unit treatment processes, such as aeration and settlement, are sequenced one after the other in the process vessel.
1. The treatment process is similar to that which occurs in aerobic systems described in other general permits except that in an aerobic system, separate vessels or partitions of the vessel are used for each unit treatment step.
2. Sequencing batch reactors are considered for use if:
   a. Enhanced biochemical processing is needed to treat wastewater with high organic content,
   b. A soil condition is not adequate to allow installation of a standard septic tank and disposal field as prescribed in R18-9-E302, or
   c. A more highly treated and disinfected wastewater is needed.

B. Performance. An applicant shall ensure that a sequencing batch reactor is designed on the basis that it produces treated wastewater that meets the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean. If a total nitrogen level from 15 to 53 milligrams per liter is proposed, the applicant shall submit the specifications on system nitrogen reduction performance and corroborating third party test data with the Notice of Intent; and
4. Total coliform level of 300,000 (Log_{10} 5.5) colony forming units per 100 milliliters, 95th percentile.

C. Reference design.
1. An applicant may design and install a sequencing batch reactor that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

D. Alternative design.
1. An applicant may submit an alternative to the reference design for a sequencing batch reactor that achieves equal or better performance than that specified in subsection (B), by following the requirements in R18-9-A312(G).
2. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
3. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E322. 4.22 General Permit: Subsurface Drip Irrigation Disposal, Less Than 3000 Gallons Per Day Design Flow

A. A 4.22 General Permit allows a subsurface drip irrigation disposal system that receives high quality wastewater from an advanced on-site wastewater treatment facility and dispenses it to an irrigation system that is buried at a shallow depth in native soil. The Director may require a thin layer of soil or engineered fill cover on the surface of the native soil, depending on wastewater quality delivered to the drip emitters.
1. The drip irrigation disposal system is designed to disperse the treated wastewater into the soil under unsaturated conditions by pressure distribution and timed dosing.
2. A subsurface drip irrigation disposal system reduces the downward percolation of wastewater by enhancing evapotranspiration to the atmosphere.
3. Drip irrigation disposal systems are considered if high groundwater, shallow soils, slowly permeable soils, or highly permeable soils are present at the site or if water conservation is needed.

B. Performance. An applicant shall ensure that:
1. A drip irrigation system is delivered treated wastewater that meets the following criteria:
   a. A category "A" drip irrigation system requires wastewater delivered to the system that meets the following minimum water quality criteria:
      i. TSS of 10 milligrams per liter, 30-day arithmetic mean;
      ii. BOD_5 of 10 milligrams per liter, 30-day arithmetic mean;
      iii. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
      iv. Total coliform level of 10 (Log_{10} 1) colony forming units per 100 milliliters, 95th percentile.
   b. A category "B" drip irrigation system requires wastewater delivered to the system that meets the following minimum water quality criteria:
      i. TSS of 20 milligrams per liter, 30-day arithmetic mean;
      ii. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
      iii. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
      iv. Total coliform level of 100 (Log_{10} 2) colony forming units per 100 milliliters, 95th percentile.
2. A drip irrigation system of category "A" or category "B" shall be designed to meet the following performance criteria:
   a. No ponding on the land surface,
   b. Evapotranspiration of at least 50% of the emitted wastewater to the atmosphere, and
   c. Incorporation of a fail-safe mechanism to prevent inadequately treated wastewater from being discharged.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit:
1. Documentation of the pretreatment method proposed to achieve the wastewater criteria specified in subsection (B)(1), such as the type of pretreatment system and the manufacturer's warranty;
2. Initial filter and drip irrigation flushing settings;
3. Calculations of the site evaporation rate;

4. Design calculations, showing the number of perennial plants needed to achieve the required evapotranspiration rate; and
5. If supplemental irrigation water is introduced to the drip system, the volume and volume percent of the supplemental water.

D. Design requirements. An applicant shall ensure that:
1. Drip irrigation lines and emitters are properly placed.
   a. Category "A" drip system. The applicant shall ensure that:
      i. Unless the manufacturer specifies deeper placement, lines and emitters are placed from six to 12 inches below the surface of the native soil; and
      ii. Soil is replaced over the top of the drip system components.
   b. Category "B" drip system. The applicant shall ensure that:
      i. Unless the manufacturer specifies otherwise, lines and emitters are placed more than six inches below the surface of the native soil; and
      ii. A cover of soil or engineered fill is placed on the surface of the native soil to achieve a total emitter burial depth of at least 12 inches;
2. Wastewater is filtered to remove particles 100 microns in size and larger;
3. Applicable requirements under R18-9-E304 for pressure distribution systems are followed;
4. A pressure regulator assures that excessive operating pressure or surges do not damage the drip irrigation system;
5. Wastewater distribution pipe is Schedule 40 PVC or better, sized for a flow velocity during flushing of at least two feet per second;
6. The system is designed to flush the irrigation components with wastewater. The applicant shall ensure that piping and valves allow the wastewater to be pumped in a line flushing mode of operation with discharge returned to the treatment system headworks;
7. Air vacuum release valves are installed to prevent water and soil drawback into the emitter;
8. Emitters are spaced no more than two feet apart. The applicant shall ensure that:
   a. Drip lines are placed from 12 to 24 inches apart unless variations in spacing allow preservation of existing trees and shrubs or enhance performance to overcome site limitations;
   b. Emitters shall be designed to discharge from 0.5 to 1.5 gallons per hour.
9. A suitable backflow prevention system is installed if supplemental water for irrigation is introduced to the pumping system. The applicant shall not introduce supplemental water to the treatment system;
10. Plants are selected with regard to the ability of each species to maintain evapotranspiration rates and absorb nutrients;
11. Drip irrigation is used in soils graded as:
   a. Sandy clay loam, clay loam, silty clay loam, or finer with weak platy structure or in soil with a percolation rate from 45 to 120 minutes per inch; and
   b. Sandy clay loam, clay loam, silty clay loam, or silt loam with massive structure or in soil with a percolation rate from 31 to 120 minutes per inch.
12. The minimum vertical separation distances are half of those specified in R18-9-A312(E)(2) if the design evapotranspiration rate is 50% or more of design flow, except that the minimum vertical separation distance shall not be less than one foot.

E. Installation requirements. An applicant shall ensure that:
1. The irrigation pipe is installed by a plow mechanism that cuts a furrow, dispenses pipe, and covers the irrigation pipe in one operation, or a trencher and hand tools that dig a trench not more than four inches wide;
2. Drip irrigation pipe has an incorporated herbicide to prevent root intrusion for at least 10 years and an incorporated bactericide to reduce bacterial slime build-up. The applicant shall store drip irrigation pipe to preserve the herbicidal and bactericidal characteristics of the pipe.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313, the permittee shall test the fail-safe mechanism quarterly to prevent discharge of inadequately treated wastewater.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

R18-9-E323. 4.23 General Permit: 3000 to less than 24,000 Gallons Per Day Design Flow

A. A 4.23 General Permit allows on-site wastewater treatment facilities with a design flow from 3000 gallons per day to less than 24,000 gallons per day if all of the following apply:
1. Except as specified in subsection (A)(3), the treatment and disposal works consists of technologies or designs that are covered under other general permits, but are sized larger to accommodate increased flows.
2. The on-site wastewater treatment facility complies with all applicable requirements of this Chapter.
3. The facility is not a system or a technology covered by one of the following general permits available for a design flow of less than 3000 gallons per day:
   a. An aerobic system with subsurface disposal, described in R18-9-E315;
   b. An aerobic system with surface disposal, described in R18-9-E316;
   c. A disinfection device, described in R18-9-E320;
   d. A sequencing batch reactor, described in R18-9-E321; or
   e. A seepage pit or pits, described in R18-9-E302,

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A performance assurance plan consisting of tasks, schedules, and estimated annual costs for operating, maintaining, and monitoring performance over a 20-year useful service life;
2. Design documents and the performance assurance plan sealed by an Arizona-registered professional engineer;
3. Any documentation submitted under the alternative design procedure in R18-9-A312(G) that pertains to achievement of better performance levels than those specified in the general permit for the corresponding facility with a design flow of less than 3000 gallons per day, or for any other alternative design, construction, or operational change proposed by the applicant.

C. Additional Verification of General Permit Conformance requirements. In addition to any other requirements, the applicant shall submit the following information before the Verification of General Permit Conformance is issued.
1. A signed and sealed Engineer's Certificate of Completion in a format approved by the Department affirming that:

a. The project was completed in compliance with the requirements of this Section and as described in the plans and specifications, or
b. Any changes are reflected in as-built plans submitted with the Engineer's Certificate of Completion.

2. The name of a certified operator or service company that is responsible for implementing the performance assurance plan.

D. Reporting requirement. The permittee shall annually provide the Department with:

1. A form signed by the certified operator or service company that:
   a. Provides any data or documentation required by the performance assurance plan,
   b. Certifies compliance with the requirements of the performance assurance plan, and
   c. Describes any additions to the system during the year that increased flows and certifies that the flow did not exceed 24,000 gallons per day during any day.
2. Any applicable fee required by 18 A.A.C. 14.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

Table 1. Unit Daily Design Flows

Type of Facility Served	Applicable Unit	Sewage Design Flow per Applicable Unit, Gallons Per Day
Airport	Passenger (average daily number) Employee	4 15
Apartment Building 1 bedroom 2 bedroom 3 bedroom 4 bedroom	Resident (if max. number fixed) Apartment Apartment Apartment Apartment	100 200 300 400 500
Auto Wash	Facility	Per manufacturer, if consistent with this Chapter
Bar/Lounge	Seat	30
Barber Shop	Chair	35
Beauty Parlor	Chair	100
Bowling Alley (snack bar only)	Lane	75
Camp Day camp, no cooking facilities Campground, overnight, flush toilets Campground, overnight, flush toilets and shower Campground, luxury Camp, youth, summer, or seasonal	 Camping unit Camping unit Camping unit Person Person	 30 75 150 100-150 50
Church Without kitchen With kitchen	 Person (maximum attendance) Person (maximum attendance)	 5 7
Country Club	Resident Member Nonresident Member	100 10
Dance Hall	Patron	5
Dental Office	Chair	500
Dog Kennel	Animal, maximum occupancy	15
Hospital All flows Kitchen waste only Laundry waste only	 Bed Bed Bed	 250 25 40
Hotel/motel Without kitchen With kitchen	 Bed (2 person) Bed (2 person)	 50 60
Industrial facility Without showers With showers Cafeteria, add	 Employee Employee Employee	 25 35 5
Institutions Resident Nursing home Rest home	 Person Person Person	 75 125 125
Laundry Self service Commercial	 Wash cycle Washing machine	 50 Per manufacturer, if consistent with this Chapter
Office Building	Employee	20
Park Picnic, with showers, flush toilets Picnic, with flush toilets only Recreational vehicle, no water or sewer connections Recreational vehicle, with water and sewer connections Mobile home/Trailer	 Parking space Parking space Vehicle space Vehicle space Space	 40 20 75 100 250

Residence		
Dwelling, per person (for sewer collection system design only)	Person	100
Dwelling, single family	Dwelling (3 bedrooms assumed)	450
Dwelling, per bedroom if count available	Bedroom	150
Dwelling, per fixture if count available	Fixture unit	25
Mobile home, family	Home lot	250
Mobile home, adults only	Home lot	150
Seasonal and summer	Resident	100
Restaurant/Cafeteria	Employee	20
With toilet, add	Customer	7
Kitchen waste, add	Meal	6
Garbage disposal, add	Meal	1
Cocktail lounge, add	Customer	2
Kitchen waste disposal service, add	Meal	2
Restroom, public	Toilet	200
School		
Staff and office	Person	20
Elementary, add	Student	15
Middle and High, add	Student	20
with gym & showers, add	Student	5
with cafeteria, add	Student	3
Boarding, total flow	Person	100
Service Station with toilets	First bay	1000
	Each additional bay	500
Shopping Center, no food or laundry	Square foot of retail space	0.1
Store	Employee	20
Public restroom, add	Square foot of retail space	0.1
Swimming Pool, Public	Person	10
Theater		
Indoor	Seat	5
Drive-in	Car space	10

Note: Unit flow rates published in standard texts, literature sources or relevant area or regional studies shall be considered by the Department, if appropriate to the project.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).

ARTICLE 4. AGRICULTURAL GENERAL PERMITS

R18-9-401. Definitions

In addition to the definitions established in A.R.S. §§ 49-101 and 49-201, the following terms apply to this Article:

1. "Application of nitrogen fertilizer" means any use of a substance containing nitrogen for the commercial production of crop plants. The commercial production of crop plants includes commercial sod farms and nurseries.
2. "Crop plant needs" means the amount of water and nitrogen required to meet the physiological demands of the crop plant to achieve a defined yield.
3. "Crop plant uptake" means the amount of water and nitrogen that can be physiologically absorbed by the roots and vegetative parts of a crop plant following the application of water.

Historical Note
Adopted effective January 4, 1991 (Supp. 91-1). Section R18-9-401 renumbered from R18-9-201 and amended by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-402. Agricultural General Permits: Nitrogen Fertilizers

A person who engages in the application of a nitrogen fertilizer and is issued an agricultural general permit shall comply with the following agricultural best management practices:

1. Limit application of the fertilizer so that it meets projected crop plant needs;
2. Time application of the fertilizer to coincide to maximum crop plant uptake;
3. Apply the fertilizer by a method designed to deliver nitrogen to the area of maximum crop plant uptake;
4. Manage and time application of irrigation water to minimize nitrogen loss by leaching and runoff; and
5. Use tillage practices that maximize water and nitrogen uptake by crop plants.

Historical Note
Adopted effective January 4, 1991 (Supp. 91-1). Section R18-9-402 renumbered from R18-9-202 and amended by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-403. Agricultural General Permits: Concentrated Animal Feeding Operations

A person who engages in or operates a concentrated animal feeding operation and is issued an agricultural general permit shall comply with the following agricultural best management practices:

1. Harvest, stockpile, and dispose of animal manure from a concentrated animal feeding operation to minimize discharge of any nitrogen pollutant by leaching and runoff;
2. Control and dispose of nitrogen contaminated water resulting from an activity associated with a concentrated

animal feeding operation, up to a 25-year, 24-hour storm event equivalent, to minimize the discharge of any nitrogen pollutant; and

3. Close facilities in a manner that will minimize the discharge of any nitrogen pollutant.

Historical Note
Adopted effective January 4, 1991 (Supp. 91-1). Section R18-9-403 renumbered from R18-9-203 and amended by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

ARTICLE 5. GRAZING BEST MANAGEMENT PRACTICES

R18-9-501. Surface Water Quality General Grazing Permit

A. A person who engages in livestock grazing and applies any of the following voluntary best management practices to maintain soil cover and prevent accelerated erosion, nitrogen discharges, and bacterial impacts to surface water greater than the natural background amount is issued a Surface Water Quality General Grazing Permit:

1. Manages the location, timing, and intensity of grazing activities to help achieve Surface Water Quality Standards;
2. Installs rangeland improvements, such as fences, water developments, trails, and corrals to help achieve Surface Water Quality Standards;
3. Implements land treatments to help achieve Surface Water Quality Standards;
4. Implements supplemental feeding, salting, and parasite control measures to help achieve Surface Water Quality Standards.

B. The person to whom a permit is issued shall make the following information available to the Department, at the person's place of business, within 10 business days of Department notice:

1. The name and address of the person grazing livestock, and
2. The best management practices selected for livestock grazing.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 1768, effective April 5, 2001 (Supp. 01-2).

ARTICLE 6. RECLAIMED WATER CONVEYANCES

R18-9-601. Definitions

In addition to the definitions provided in R18-9-701, the following terms apply to this Article:

1. "Open water conveyance" means any constructed open waterway, including canals and laterals that transports reclaimed water from a sewage treatment facility to a reclaimed water blending facility or from a sewage treatment facility or reclaimed water blending facility to the point of land application or end use. An open water conveyance does not include waters of the United States.
2. "Pipeline conveyance" means any system of pipelines that transports reclaimed water from a sewage treatment facility to a reclaimed water blending facility or from a sewage treatment facility or reclaimed water blending facility to the point of land application or end use.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-602. Pipeline Conveyances of Reclaimed Water

A. Applicability.

1. Any person constructing a pipeline conveyance on or after January 1, 2001, whether new or a replacement of an existing pipeline shall meet the requirements of this Article.
2. Any person who has constructed a pipeline conveyance before January 1, 2001, is considered to be in compliance with this Article.

B. A person shall design and construct a pipeline conveyance system using good engineering judgement following standards of practice.

C. A person shall construct a pipeline conveyance so that:

1. Reclaimed water does not find its way into, or otherwise contaminate, a potable water system;
2. System structural integrity is maintained; and
3. The capability for inspection, maintenance, and testing is maintained.

D. A person shall construct a pipeline conveyance and all appurtenances conducting reclaimed water to withstand a static pressure of at least 50 pounds per square inch greater than the design working pressure without leakage as determined in A.A.C. R18-9-E301(D)(2)(j).

E. A person shall provide a pipeline conveyance with thrust blocks or restrained joints where needed to prevent excessive movement of the pipeline.

F. The following requirements for minimum separation distance apply. A person shall:

1. Locate a pipeline conveyance no closer than 50 feet from a drinking water well unless the pipeline conveyance is constructed as specified under subsection (F)(3);
2. Locate a pipeline conveyance no closer than two feet vertically nor six feet horizontally from a potable water pipeline unless the pipeline conveyance is constructed as specified under subsection (F)(3);
3. Construct a pipeline conveyance that does not meet the minimum separation distances specified in subsections (F)(1) and (F)(2) by encasing the pipeline conveyance in at least six inches of concrete or using mechanical joint ductile iron pipe or other materials of equivalent or greater tensile and compressive strength at least 10 feet beyond any point on the pipeline conveyance within the specified minimum separation distance; and
4. If a reclaimed water system is supplemented with water from a potable water system, separate the potable water system from the pipeline conveyance by an air gap.

G. A person shall:

1. For a pipeline conveyance, eight inches in diameter or less, use pipe marked on opposite sides in English: "CAUTION: RECLAIMED WATER, DO NOT DRINK" in intervals of three feet or less and colored purple or wrapped with durable purple tape.
2. For a mechanical appurtenance to a pipeline conveyance, ensure that the mechanical appurtenance is colored purple or legibly marked to identify it as part of the reclaimed water distribution system and distinguish it from systems for potable water distribution and sewage collection.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-603. Open Water Conveyances of Reclaimed Water

A. This Article applies to an open water conveyance, regardless of the date of construction.

B. A person shall maintain an open water conveyance to prevent release of reclaimed water except as allowed under federal and

state regulations. The maintenance program shall include periodic inspections and follow-up corrective measures to ensure the integrity of conveyance banks and capacity of the conveyance to safely carry operational flows.

C. Signage for Class B+, B, and C Reclaimed Water. A person shall:
1. Ensure that signs state: "CAUTION: RECLAIMED WATER, DO NOT DRINK," and display the international "do not drink" symbol;
2. Place signs at all points of ingress and, if the open water conveyance is operated with open access, at least every 1/4-mile along the length of the open water conveyance; and
3. Ensure that signs are visible and legible from both sides of the open water conveyance.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

ARTICLE 7. DIRECT REUSE OF RECLAIMED WATER

R18-9-701. Definitions

Unless provided otherwise, the definitions provided in A.R.S. § 49-201, A.A.C. R18-9-101, R18-9-601, R18-11-301, and the following terms apply to this Article:
1. "Direct reuse" means the beneficial use of reclaimed water for a purpose allowed by this Article. The following is not a direct reuse of reclaimed water:
   a. The use of water subsequent to its discharge under the conditions of a National Pollutant Discharge Elimination System permit;
   b. The use of water subsequent to discharge under the conditions of an Aquifer Protection Permit issued under 18 A.A.C. 9, Articles 1 through 3; or
   c. The use of industrial wastewater or reclaimed water, or both, in a workplace subject to a federal program that protects workers from workplace exposures.
2. "Direct reuse site" means an area permitted for the application or impoundment of reclaimed water. An impoundment operated for disposal under an Aquifer Protection Permit is not a direct reuse site.
3. "End user" means a person who directly reuses reclaimed water meeting the standards for Classes A+, A, B+, B, and C, established under 18 A.A.C. 11, Article 3.
4. "Gray water" means wastewater collected separately from a sewage flow that originates from a clothes washer, bathtub, shower, and sink, but does not include wastewater from a kitchen sink, dishwasher, or toilet.
5. "Industrial wastewater" means wastewater generated from an industrial process.
6. "Irrigation" means the beneficial use of water or reclaimed water, or both, for growing crops, turf, or silviculture, or for landscaping.
7. "Open access" means that access to reclaimed water by the general public is uncontrolled.
8. "Reclaimed water" means water that has been treated or processed by a wastewater treatment plant or an on-site wastewater treatment facility. A.R.S. § 49-201(31).
9. "Reclaimed water agent" means a person who holds a permit to distribute reclaimed water to more than one end user.
10. "Reclaimed water blending facility" means an installation or method of operation that receives reclaimed water from a sewage treatment facility or other reclaimed water blending facility classified to produce Class C or better reclaimed water and blends it with other water so that the produced water may be used for a higher-class purpose listed in 18 A.A.C. 11, Article 3, Appendix A.
11. "Restricted access" means that access to reclaimed water by the general public is controlled.

Historical Note
Former Section R9-20-401 repealed, new Section R9-20-401 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-401 renumbered without change as Section R18-9-701 (Supp. 87-3). Amended by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-702. Applicability and Standards for Reclaimed Water Classes

A. This Article applies to:
1. An owner or operator of a sewage treatment facility that generates reclaimed water for direct reuse,
2. An owner or operator of a reclaimed water blending facility,
3. A reclaimed water agent,
4. An end user,
5. A person who uses gray water,
6. A person who directly reuses reclaimed water from a sewage treatment facility combined with industrial wastewater or combined with reclaimed water from an industrial wastewater treatment facility, and
7. A person who directly reuses reclaimed water from an industrial wastewater treatment facility in the production or processing of a crop or substance that may be used as human or animal food.

B. Reclaimed water classes A+, A, B+, B, and C specified in this Article shall meet the standards established in 18 A.A.C. 11, Article 3.

C. Nothing in this Article exempts the disposal of reclaimed water from the Aquifer Protection Permit requirements under A.R.S. Title 49, Chapter 2, Articles 1, 2, and 3.

Historical Note
Former Section R9-20-402 repealed, new Section R9-20-402 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-402 renumbered without change as Section R18-9-702 (Supp. 87-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-703. Transition of Permits

A. A person may directly reuse reclaimed water under an individual Aquifer Protection Permit or a Permit for the Reuse of Reclaimed Wastewater issued by the Department before January 1, 2001 if the person meets the conditions of the permit and the permit does not expire.

B. A person meeting the requirements of subsection (A) may apply for a new reclaimed water permit under this Article.
1. To obtain a reclaimed water permit, a person shall submit a Reclaimed Water Individual Permit application, required under R18-9-705(B), a Notice of Intent for Direct Reuse of Reclaimed Water, required under R18-9-708(B)(2), or a Notice of Intent to Operate, required under R18-9-708(C)(1) to the Department at least 120 days before the current permit expires.
2. The Department shall continue the terms of the individual Aquifer Protection Permit or the Permit for the Reuse of Reclaimed Wastewater beyond the stated date of expiration if:
   a. The permitted direct reuse is of a continuing nature; and

b. The permittee submits a timely and complete application for a new permit.

C. Sewage treatment facility generating reclaimed water.
1. At the request of a permittee, the Department shall amend an individual Aquifer Protection Permit issued before January 1, 2001 if the permittee adequately demonstrates that the applicable quality of reclaimed water produced for direct reuse is achieved. The Department shall review:
   a. The information in the individual Aquifer Protection Permit application and the water quality test results from the previous two years to determine the classification of reclaimed water generated by the sewage treatment facility; and
   b. The available water quality data if the sewage treatment facility has operated for less than two years.
2. The Department shall ensure that an amended individual Aquifer Protection Permit contains:
   a. Identification of the class of reclaimed water generated by the facility;
   b. Requirements for monitoring reclaimed water quality and flow at a frequency appropriate to demonstrate compliance with this Article and 18 A.A.C. 11, Article 3;
   c. Requirements for quarterly reporting of the following data to the Department, any reclaimed water agent who has contracted for delivery of reclaimed water from the facility, and any end user who has not waived interest in receiving this information:
      i. Water quality test results demonstrating that reclaimed water produced by the facility meets the applicable standards for the class of water identified in subsection (C)(2)(a), and
      ii. The total volume of reclaimed water generated for direct reuse.
   d. Provision for cessation of delivery, if necessary, and storage or disposal if reclaimed water cannot be delivered for direct reuse.

Historical Note

Former Section R9-20-403 repealed, new Section R9-20-403 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-403 renumbered without change as Section R18-9-703 (Supp. 87-3). Editorial change to labels in subsection (c)(8) (Supp. 89-4). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-704. General Requirements

A. Sewage treatment facility. Except for permits continued under R18-9-703(A), a sewage treatment facility owner or operator shall provide reclaimed water for direct reuse only under an individual Aquifer Protection Permit amended under R18-9-703(C)(2).

B. Additional treatment. If an owner or operator of a facility accepts reclaimed water and provides additional treatment for a higher quality direct reuse, the facility is considered a sewage treatment facility and shall operate under the requirements of an individual Aquifer Protection Permit amended under R18-9-703(C)(2).

C. Reclaimed water blending facility. An owner or operator of a reclaimed water blending facility shall not conduct blending operations without obtaining a Reclaimed Water Individual Permit or Reclaimed Water General Permit.

D. Reclaimed water agent. A person shall not operate as a reclaimed water agent without obtaining a Reclaimed Water Individual Permit or a Reclaimed Water General Permit.

E. End user. A person shall not directly reuse reclaimed water unless permitted under this Article.

F. Irrigating with reclaimed water. A permittee irrigating with reclaimed water shall:
1. Use application methods that reasonably preclude human contact with reclaimed water;
2. Prevent reclaimed water from standing on open access areas during normal periods of use;
3. Prevent reclaimed water from coming into contact with drinking fountains, water coolers, or eating areas; and
4. Secure hose bibbs discharging reclaimed water to prevent use by the public.

G. Prohibited activities.
1. Irrigating with untreated sewage;
2. Providing or using reclaimed water for any of the following activities:
   a. Direct reuse for human consumption;
   b. Direct reuse for swimming, wind surfing, water skiing, or other full-immersion water activity with a potential of ingestion; or
   c. Direct reuse for evaporative cooling or misting.
3. Misapplying reclaimed water for any of the following reasons:
   a. Application of a stated class of reclaimed water that is of lesser quality than allowed by this Article for the type of direct reuse application;
   b. Application of reclaimed water to any area other than a direct reuse site; or
   c. Allowing runoff of reclaimed water or reclaimed water mixed with stormwater from a direct reuse site, except for agricultural return flow that is directed onto an adjacent field or returned to an open water conveyance.

H. A permittee shall place and maintain signage at locations specified in Table 1 so the public is informed that reclaimed water is in use and that no one should drink from the system.

Table 1. Signage Requirements for Direct Reuse Sites

Reclaimed Water Class	Hose Bibbs	Residential Irrigation	Schoolground Irrigation	Other Open Access Irrigation	Restricted Access Irrigation	Mobile Reclaimed Water Dispersal
A+	Each bibb	Front yard, or all entrances to a subdivision if the signage is supplemented by written yearly notification to individual homeowners by the homeowner's association.	On premises visible to staff and students	None	None	Back of truck or on tank
A	Each bibb	Front yard, or all entrances to a subdivision if the signage is supplemented by written yearly notification to individual homeowners by the homeowner's association.	On premises visible to staff and students	None	None	Back of truck or on tank
B+	Each bibb	Direct Reuse Not Allowed	Direct Reuse Not Allowed	Direct Reuse Not Allowed	1. Ingress points 2. On premises or at reasonably spaced intervals not more than 1/4 mile, as applicable to the use 3. Notice on golf score cards, if applicable	Back of truck or on tank
B	Each bibb	Direct Reuse Not Allowed	Direct Reuse Not Allowed	Direct Reuse Not Allowed	1. Ingress points 2. On premises or at reasonably spaced intervals not more than 1/4 mile, as applicable to the use 3. Notice on golf score cards, if applicable	Back of truck or on tank
C	Each bibb	Direct Reuse Not Allowed	Direct Reuse Not Allowed	Direct Reuse Not Allowed	1. Ingress points 2. On premises or at reasonably spaced intervals not more than 1/4 mile, as applicable to the use	Back of truck or on tank

Note: All impoundments with open access including lakes, ponds, ornamental fountains, waterfalls, and other water features shall be posted with signs regardless of the class of reclaimed water.

Historical Note

Former Section R9-20-404 repealed, new Section R9-20-404 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-404 renumbered without change as Section R18-9-704 (Supp. 87-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-705. Reclaimed Water Individual Permit Application

A. Pre-application conference. Upon request of an applicant, the Department shall schedule and hold a pre-application conference with the applicant to discuss any requirements in this Article.

B. To apply for a Reclaimed Water Individual Permit, a person shall provide the Department with:
1. The following information on a form provided by the Department:
   a. The name and mailing address of the owner or operator of the facility or the reclaimed water agent;
   b. The social security number of the applicant, if the applicant is an individual;
   c. The legal description of the direct reuse site, including latitude and longitude coordinates;
   d. Any other federal or state environmental permits issued to the applicant;
   e. Source of reclaimed water to be directly reused;
   f. Volume of reclaimed water to be directly reused on an annual basis;
   g. Class of reclaimed water to be directly reused;
   h. Description of the direct reuse activity; and
   i. The applicant's signature certifying that the information submitted in the application is true and accurate to the best of the applicant's knowledge.
2. A copy of the certificate of disclosure of violations required under A.R.S. § 49-109; and
3. The applicable permit fee specified under 18 A.A.C. 14.

C. Administrative completeness review. Upon receipt, the Department shall review the Reclaimed Water Individual Permit application to determine its administrative completeness under A.R.S. § 41-1074 and A.A.C. R18-1-503.

D. Substantive review. Upon receipt of a complete Reclaimed Water Individual Permit application, the Department shall review the application to determine its substantive adequacy under A.R.S. § 41-1075 and A.A.C. R18-1-504.

E. Draft permit. The Department shall provide the applicant a copy of a draft of the Reclaimed Water Individual Permit before the notice specified in subsection (F) is published.

F. Public participation.
1. Notice of Preliminary Decision.
   a. The Department shall publish a Notice of Preliminary Decision to issue or deny a Reclaimed Water Individual Permit within a period of time that allows the Department to meet the licensing time-frame requirements under 18 A.A.C. 5.
   b. The Department shall publish the Notice of Preliminary Decision regarding the issuance or denial of a final permit determination in one or more newspapers of general circulation where the facility is located.
   c. The Department shall accept written comments from the public before a Reclaimed Water Individual Permit is issued or denied.
   d. The written public comment period begins on the publication date of the Notice of Preliminary Decision and extends for 30 calendar days.
2. After publishing the notice specified in subsection (F)(1)(a), the Department shall hold a public hearing to address the Notice of Preliminary Decision if the Department determines that:
   a. Public interest in a public hearing exists, or
   b. Issues or information have been brought to the attention of the Department that are relevant to the permitting decision and have not been considered previously in the permitting process.
3. If the Department determines that a public hearing is necessary and a public hearing has not already been noticed under subsection (F)(1)(a), the Department shall schedule a public hearing and republish the Notice of Preliminary Decision as a legal notice at least once, in one or more newspapers of general circulation where the facility is located.
4. The Department shall accept written public comment until the close of the hearing record as specified by the person presiding at the public hearing.

G. Final permit issuance or denial.
1. The Department shall give the applicant written notification of its final decision to issue or deny the permit application within the overall licensing time-frame requirements in 18 A.A.C. 5.
2. The Department may deny a Reclaimed Water Individual Permit if the Department determines upon completion of the application process that the applicant has:
   a. Failed or refused to correct a deficiency in the permit application;
   b. Failed to demonstrate that the facility and the operation will protect public health and water quality. This determination shall be based on:
      i. The information submitted in the permit application,
      ii. Any information submitted to the Department as written public comment or following a public hearing; or
      iii. Any information relevant to the demonstration that is developed or acquired by the Department, or
   c. Provided false or misleading information.
3. If the Department denies a Reclaimed Water Individual Permit the Department shall provide the applicant with written notification that explains the following:
   a. The reasons for the denial with references to the statutes or rules on which the denial is based.
   b. The applicant's right to appeal the denial, including the number of days the applicant has to file a notice of appeal, and the name and telephone number of the Department contact person who can answer questions regarding the appeals process.
   c. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

Historical Note

Former Section R9-20-405 repealed, new Section R9-20-405 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-405 renumbered without change as Section R18-9-705 (Supp. 87-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-706. Reclaimed Water Individual Permit General Provisions

A. A Reclaimed Water Individual Permit obtained under R18-9-705:
1. Is valid for five years;
2. May be amended, transferred, reissued, or revoked by the Director based on whether the permittee meets the terms of the individual permit and the requirements of this Article; and
3. Continues, pending the issuance of a new permit, with the same terms following its expiration if the following are met:

a. The permittee submits an application for a new permit at least 120 days before the expiration of the existing permit; and
b. The permitted activity is of a continuing nature.

B. A Reclaimed Water Individual Permit shall contain, if applicable:
1. The class of reclaimed water to be applied for direct reuse;
2. Specific reuse applications or limitations on reuse;
3. Requirements for monitoring reclaimed water quality and flow to demonstrate compliance with this Article and 18 A.A.C. 11, Article 3;
4. Requirements for reporting the following data to demonstrate compliance with this Article and 18 A.A.C. 11, Article 3:
   a. Water quality test results demonstrating that the reclaimed water meets the applicable standards for the class of water identified in subsection (B)(1), and
   b. The total volume of reclaimed water generated for direct reuse.
5. Requirements for maintaining records of all monitoring information and monitoring activities that include:
   a. The date, description of sampling location, and time of sampling or measurement;
   b. The name of the person who performed the sampling or measurement;
   c. The date the analyses were performed;
   d. The name of the person who performed the analyses;
   e. The analytical techniques or methods used;
   f. The results of the analyses; and
   g. Documentation of sampling technique, sample preservation, and transportation, including chain-of-custody forms.
6. Requirements to retain all monitoring activity records and results, including all original strip chart recordings for continuous monitoring instrumentation, and calibration and maintenance records for five years from the date of sampling or analysis. The Director shall extend the five-year retention period:
   a. During the course of an unresolved litigation regarding compliance with the permit conditions, or
   b. For any other justifiable cause.
7. A requirement to allow all end users access to the records of physical, chemical, and biological quality of the reclaimed water.

C. Permit transfer. A permittee may transfer a Reclaimed Water Individual Permit to another person if the following conditions are met:
1. The permittee notifies the Director of the proposed transfer.
2. The permittee submits a written agreement containing a specific date for the transfer of permit responsibility and coverage between the current permittee and the proposed new permittee, including an acknowledgment that the existing permittee is liable for violations up to the date of transfer and that the proposed new permittee will be liable for violations from that date forward.
3. The notice specified in subsection (C)(1) contains any information for the proposed new permittee that is changed from the information submitted under R18-9-705(B).
4. The Director, within 30 days of receiving a transfer notice from the permittee, does not notify both the current permittee and proposed new permittee of the intent to amend, revoke, or reissue the permit or require the proposed new permittee to file an application for a new permit rather than agreeing to transfer the current permit.

Historical Note
Former Section R9-20-406 repealed, new Section R9-20-406 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-406 renumbered without change as Section R18-9-706 (Supp. 87-3). Amended effective December 1, 1988 (Supp. 88-4). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-707. Reclaimed Water Individual Permit Where Industrial Wastewater Influences the Characteristics of Reclaimed Water

A. The following activities are prohibited unless a Reclaimed Water Individual Permit is obtained under R18-9-705:
1. Direct reuse of reclaimed water from a sewage treatment facility that is combined with industrial wastewater or that is combined with reclaimed water from an industrial wastewater treatment facility.
2. Direct reuse of reclaimed water from an industrial wastewater treatment facility for production or processing of a crop or substance that may be used as human or animal food.

B. In addition to the requirements in R18-9-705(B), an application for a Reclaimed Water Individual Permit shall include:
1. Each source of the industrial wastewater with Standard Industrial Code, and the projected rates and volumes from each source;
2. The chemical, biological, and physical characteristics of the industrial wastewater from each source; and
3. If reclaimed water will be used in the processing of any crop or substance that may be used as human or animal food, the information regarding food safety and any potential adverse health effects of this direct reuse.

Historical Note
Former Section R9-20-407 repealed, new Section R9-30-407 adopted effective May 24, 1985 (Supp. 85-3). Former Section R9-20-407 renumbered without change as Section R18-9-707 (Supp. 87-3). Section repealed; new Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-708. Reusing Reclaimed Water Under a General Permit

A. Type 1 Reclaimed Water General Permit. A person may directly reuse reclaimed water without notice to the Department if:
1. The direct reuse is specifically authorized by and meets the requirements of this Article, and
2. Complies with the requirements of the Type 1 Reclaimed Water General Permit under R18-9-711.

B. Type 2 Reclaimed Water General Permit.
1. A person may directly reuse reclaimed water under a Type 2 Reclaimed Water General Permit if:
   a. The direct reuse is authorized by and meets the requirements of this Article;
   b. The direct reuse meets all the conditions of the applicable Type 2 Reclaimed Water General Permit under R18-9-712 through R18-9-716;
   c. The person files a Notice of Intent for Direct Reuse of Reclaimed Water under subsection (B)(2); and
   d. The person submits the applicable fee established in 18 A.A.C. 14.
2. Notice of Intent for Direct Reuse of Reclaimed Water.

a. A person shall submit, by certified mail, in person, or by another method approved by the Department, the Notice of Intent for Direct Reuse of Reclaimed Water on a form provided by the Department.
b. The Notice of Intent for Direct Reuse of Reclaimed Water shall include;
i. The name, address, and telephone number of the applicant;
ii. The social security number of the applicant, if the applicant is an individual;
iii. The name, address, and telephone number of the contact person;
iv. The source, volume, and class of reclaimed water to be directly reused;
v. A legal description of the direct reuse site, including latitude and longitude coordinates;
vi. The description of the direct reuse activity, including a description of acreage and the type of vegetation to be irrigated, if applicable to the type of direct reuse activity; and
vii. The permittee's signature certifying that the permittee agrees to comply with all requirements of this Article, including specific terms of the applicable Reclaimed Water General Permit.

C. Type 3 Reclaimed Water General Permit. A person may operate under a Type 3 Reclaimed Water General Permit after filing an applicable Notice of Intent to Operate with the Department and receiving a written Verification of General Permit Conformance for the operation.
1. Application submittal. The applicant shall submit, either by certified mail, in person at the Department, or by another method approved by the Department:
a. The Notice of Intent to Operate on a form provided by the Department containing the information specified in the applicable Type 3 Reclaimed Water General Permit under R18-9-717(B), R18-9-718(C), or R18-9-719(B), and
b. The applicable fee established in 18 A.A.C. 14.
2. Verification issuance. If, after reviewing the Notice of Intent to Operate, the Department determines that the direct reuse conforms with the conditions of a Type 3 Reclaimed Water General Permit and all other applicable requirements of this Article, the Department shall issue the Verification of General Permit Conformance.
3. Verification denial.
a. If the Department determines on the basis of its review or an inspection that the direct reuse does not conform to the conditions of the applicable Type 3 Reclaimed Water General Permit or other applicable requirements of this Article, the Department shall notify the applicant of its decision not to issue the Verification of General Permit Conformance.
b. If an application is denied, the applicant shall not operate under a Type 3 Reclaimed Water General Permit.
c. The applicant may appeal the decision not to issue a Verification of General Permit Conformance under A.R.S. §§ 41-1092 through 41-1092.12.
4. Automatic issuance. If the Department does not issue the Verification of General Permit Conformance within the time-frame specified under 18 A.A.C. 1, Article 5, and does not notify the applicant that it will not issue the verification, the verification automatically becomes effective upon expiration of the overall time-frame.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-709. Reclaimed Water General Permit Renewal and Transfer

A. General permit renewal. A permittee shall renew a Reclaimed Water General Permit at least 90 days before the permit expires by following the procedure described in either R18-9-708(B) or (C) and include the applicable fee established in 18 A.A.C. 14.
1. A Type 1 Reclaimed Water General Permit is valid as long as the conditions of the general permit and the requirements of this Article are met. No renewal is required;
2. A Type 2 Reclaimed Water General Permit is valid for five years from the date the Department receives the Notice of Intent for Direct Reuse of Reclaimed Water;
3. A Type 3 Reclaimed Water General Permit is valid for five years from the date the Verification of General Permit Conformance becomes effective.

B. General permit transfer. A permittee shall provide notice to the Department by certified mail within 15 days following the transfer of a Type 2 or Type 3 Reclaimed Water General Permit. The Notice of Transfer shall:
1. Contain any information that has changed from the original Notice of Intent for Direct Reuse of Reclaimed Water or the Notice of Intent to Operate, including all information on the proposed new permittee, and
2. Include the applicable fee established in 18 A.A.C. 14.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-710. Reclaimed Water General Permit Revocation

A. The Director may revoke a Reclaimed Water General Permit if the permittee fails to comply with any requirement in this Article, including a condition specified in the applicable Reclaimed Water General Permit. The Director shall make the determination based on the risk to public health and safety or a threat to waters of the state.
1. Before revoking a general permit, the Department shall provide notice to the permittee by certified mail of the Department's intent to revoke the Reclaimed Water General Permit. The notice of intent to revoke the general permit shall provide the permittee a reasonable opportunity to correct any noncompliance and specify a time-frame within which the permittee shall achieve compliance.
2. If the permittee fails to correct the noncompliance within the specified time-frame, the Department shall notify the permittee, by certified mail, of the Director's decision to revoke the Reclaimed Water General Permit.

B. The Director shall revoke a Reclaimed Water General Permit for any or all facilities located within a specific geographic area, if, due to a geologic or hydrologic condition, the cumulative effect of the facilities subject to the Reclaimed Water General Permit has violated or will violate a Water Quality Standard established under A.R.S. §§ 49-221 and 49-223.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-711. Type 1 Reclaimed Water General Permit for Gray Water

A. A Type 1 Reclaimed Water General Permit allows private residential direct reuse of gray water for a flow of less than 400 gallons per day if all the following conditions are met:
1. Human contact with gray water and soil irrigated by gray water is avoided;
2. Gray water originating from the residence is used and contained within the property boundary for household gardening, composting, lawn watering, or landscape irrigation;
3. Surface application of gray water is not used for irrigation of food plants, except for citrus and nut trees;
4. The gray water does not contain hazardous chemicals derived from activities such as cleaning car parts, washing greasy or oily rags, or disposing of waste solutions from home photo labs or similar hobbyist or home occupational activities;
5. The application of gray water is managed to minimize standing water on the surface;
6. The gray water system is constructed so that if blockage, plugging, or backup of the system occurs, gray water can be directed into the sewage collection system or on-site wastewater treatment and disposal system, as applicable. The gray water system may include a means of filtration to reduce plugging and extend system lifetime;
7. Any gray water storage tank is covered to restrict access and to eliminate habitat for mosquitoes or other vectors;
8. The gray water system is sited outside of a floodway;
9. The gray water system is operated to maintain a minimum vertical separation distance of at least five feet from the point of gray water application to the top of the seasonally high groundwater table;
10. For residences using an on-site wastewater treatment facility for black water treatment and disposal, the use of a gray water system does not change the design, capacity, or reserve area requirements for the on-site wastewater treatment facility at the residence, and ensures that the facility can handle the combined black water and gray water flow if the gray water system fails or is not fully used;
11. Any pressure piping used in a gray water system that may be susceptible to cross connection with a potable water system clearly indicates that the piping does not carry potable water;
12. Gray water applied by surface irrigation does not contain water used to wash diapers or similarly soiled or infectious garments unless the gray water is disinfected before irrigation; and
13. Surface irrigation by gray water is only by flood or drip irrigation.

B. Prohibitions. The following are prohibited:
1. Gray water use for purposes other than irrigation, and
2. Spray irrigation.

C. Towns, cities, or counties may further limit the use of gray water described in this Section by rule or ordinance.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-712. Type 2 Reclaimed Water General Permit for Direct Reuse of Class A+ Reclaimed Water

A. A Type 2 Reclaimed Water General Permit for Direct Reuse of Class A+ Reclaimed Water allows any direct reuse application of reclaimed water listed in 18 A.A.C. 11, Article 3, Appendix A, if the conditions in this Article are met.

B. Record maintenance. A permittee shall maintain records for five years that describe the direct reuse site and the total amount of reclaimed water used annually for the permitted direct reuse activity. The records shall be made available to the Department upon request.

C. A permittee shall post signs as specified in R18-9-704(H).

D. No lining is required for an impoundment storing Class A+ reclaimed water.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-713. Type 2 Reclaimed Water General Permit for Direct Reuse of Class A Reclaimed Water

A. A Type 2 Reclaimed Water General Permit for the Direct Reuse of Class A Reclaimed Water allows any direct reuse application of reclaimed water listed in 18 A.A.C. 11, Article 3, Appendix A, if the conditions in this Article are met.

B. Records and reporting. A permittee shall:
1. Maintain records containing the following information for five years, and make them available to the Department upon request:
   a. The direct reuse site,
   b. The volume of reclaimed water applied monthly for each category of direct reuse activity listed in 18 A.A.C. 11, Article 3, Appendix A,
   c. The total nitrogen concentration of the reclaimed water applied, and
   d. The acreage and type of vegetation to which the reclaimed water is applied.
2. Report annually to the Department on or before the anniversary date of the Notice of Intent:
   a. The volume of reclaimed water received,
   b. The type of reclaimed water application, and
   c. If used for irrigation, the vegetation and acreage irrigated.

C. Nitrogen management. A permittee shall ensure that:
1. Impoundments storing reclaimed water allowed by the general permit are lined using a low-hydraulic conductivity artificial or site-specific liner material achieving a calculated discharge rate less than 550 gallons per acre per day; and
2. The application rates of the reclaimed water are based on one of the following:
   a. The water allotment assigned by the Arizona Department of Water Resources;
   b. A water balance that considers consumptive use of water by the crop, turf, or landscape vegetation; or
   c. An alternative method approved by the Department.

D. In addition to the Notice of Intent for Direct Reuse of Reclaimed Water specified in R18-9-708(B)(2), the applicant shall provide a list of impoundments and the liner characteristics and the method chosen from the list in subsection (C)(2).

E. The permittee shall post signs as specified in R18-9-704(H).

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-714. Type 2 Reclaimed Water General Permit for Direct Reuse of Class B+ Reclaimed Water

A. A Type 2 Reclaimed Water General Permit for Direct Reuse of Class B+ Reclaimed Water allows any direct reuse application of Class B and Class C reclaimed water listed in 18 A.A.C. 11, Article 3, Appendix A, if the conditions in this Article are met.

B. A permittee shall comply with the record maintenance and posting requirements established under R18-9-712 and make records available to the Department upon request.

C. No lining is required for an impoundment storing Class B+ reclaimed water.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-715. Type 2 Reclaimed Water General Permit for Direct Reuse of Class B Reclaimed Water

A. A Type 2 Reclaimed Water General Permit for the Direct Reuse of Class B Reclaimed Water allows the direct reuse application of Class B and Class C reclaimed water listed in 18 A.A.C. 11, Article 3, Appendix A, if conditions in this Article are met.

B. A permittee shall comply with the requirements established under R18-9-713(B), (C), (D), and (E).

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-716. Type 2 Reclaimed Water General Permit for Direct Reuse of Class C Reclaimed Water

A. A Type 2 Reclaimed Water General Permit for the Direct Reuse of Class C Reclaimed Water allows the direct reuse application of Class C reclaimed water listed in 18 A.A.C. 11, Article 3, Appendix A, if conditions in this Article are met.

B. A permittee shall comply with the requirements established under R18-9-713(B), (C), (D), and (E).

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-717. Type 3 Reclaimed Water General Permit for a Reclaimed Water Blending Facility

A. Permit conditions.
1. A Type 3 Reclaimed Water General Permit for a Reclaimed Water Blending Facility allows the blending of reclaimed water with other water, if the conditions in this Article are met.
2. Blending reclaimed water with industrial wastewater or with reclaimed water from an industrial wastewater treatment plant is not authorized by this general permit.

B. A person shall file with the Department a Notice of Intent to Operate a reclaimed water blending facility at least 90 days before the date the proposed activity will start. The Notice of Intent to Operate shall include:
1. The name, address, and telephone number of the applicant;
2. The social security number of the applicant, if the applicant is an individual;
3. The name, address, and telephone number of a contact person;
4. The source and volume of reclaimed water to be blended;
5. The class of reclaimed water to be blended;
6. The source, volume, and quality of other water to be blended;
7. A legal description of the reclaimed water blending facility, including latitude and longitude coordinates;
8. A description of the reclaimed water blending facility, including a demonstration that the proposed blending methodology will meet the standards established in 18 A.A.C. 11, Article 3 for the class of reclaimed water the facility will produce;
9. A signature on the notice of intent certifying that the applicant agrees to comply with the requirements of this Article, 18 A.A.C. 11, Article 3, and the terms of this reclaimed water general permit; and
10. The applicable permit fee specified under 18 A.A.C. 14.

C. A person shall not operate a reclaimed water blending facility until the Department issues a written Verification of General Permit Conformance under R18-9-708(C).

D. A permittee shall monitor:
1. The blended water quality for total nitrogen and fecal coliform at frequencies specified by the class of reclaimed water in 18 A.A.C. 11, Article 3.
   a. If the concentration of either total nitrogen or fecal coliform, as applicable, exceeds the limits for the reclaimed water class established in 18 A.A.C. 11, Article 3, the permittee shall submit a report to the Department within 30 days with a proposal to change the blending process. The permittee shall also double the monitoring frequency for the next two months.
   b. If another exceedance occurs within the interval of increased monitoring, the permittee shall submit an application within 45 days for a Reclaimed Water Individual Permit.
2. The volume of reclaimed water, the volume of the other water, and the total volume of blended water delivered for direct reuse on a monthly basis.

E. The permittee shall report the results of the monitoring under subsection (D) to the Department on or before the anniversary date of the verification approval and shall make this information available to the end users.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-718. Type 3 Reclaimed Water General Permit for a Reclaimed Water Agent

A. A Type 3 Reclaimed Water General Permit allows a person to operate as a Reclaimed Water Agent if that the conditions of this Article are met, and the following conditions are met for the class of reclaimed water delivered by the Reclaimed Water Agent:
1. Signage requirements specified under R18-9-704(H), as applicable;
2. Impoundment liner requirements specified under R18-9-712(D), R18-9-713(C), R18-9-714(C), R18-9-715(B), or R18-9-716(B), as applicable; and
3. Nitrogen management requirements specified under R18-9-713(C), R18-9-715(B), and R18-9-716(B), as applicable.

B. A person holding a Type 3 Reclaimed Water Permit for a Reclaimed Water Agent:
1. Is responsible for the direct reuse of reclaimed water by more than one end user instead of direct reuse by the end users under separate Type 2 Reclaimed Water General Permits, and
2. Shall maintain a contractual agreement with each end user stipulating any end user responsibilities for the requirements specified under subsection (A).

C. A person shall file with the Department a Notice of Intent to Operate as a reclaimed water agent at least 90 days before the date the proposed activity will start. The Notice of Intent to Operate shall include:
1. The name, address, and telephone number of the applicant;

2. The social security number of the applicant, if the applicant is an individual;
3. The name, address, and telephone number of a contact person;
4. The following information for each end user to be supplied reclaimed water by the applicant:
   a. The name, address and telephone number of the end user;
   b. A legal description of each direct reuse site, including latitude and longitude coordinates; and
   c. A description of each direct reuse activity, including the type of vegetation, acreage, and annual volume of reclaimed water to be used, unless Class A+ or Class B+ reclaimed water is delivered.
5. The source, class, and annual volume of reclaimed water to be delivered by the applicant;
6. A description of the contractual arrangement between the applicant and each end user, including any end user responsibilities for the requirements specified under subsection (A); and
7. The applicable permit fee specified under 18 A.A.C. 14.

D. A proposed reclaimed water agent shall not distribute reclaimed water to end users until the Department issues a written Verification of General Permit Conformance issued under R18-9-708(C).

E. A reclaimed water agent shall record and annually report the following information to the Department, on or before each anniversary date of the verification approval:
1. The total volume of reclaimed water delivered by the reclaimed water agent;
2. The volume of reclaimed water delivered to each end user for Class A, Class B, and Class C reclaimed water; and
3. Any change in the information submitted under subsection (C).

F. The reclaimed water agent shall notify the Department before the end of each calendar year of any changes in the information submitted under subsection (C).

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-719. Type 3 Reclaimed Water General Permit for Gray Water

A. A Type 3 Reclaimed Water General Permit allows a gray water irrigation system if:
1. The general permit described in R18-9-711 does not apply,
2. The flow is not more than 3000 gallons per day, and
3. The gray water system satisfies the notification, design, and installation requirements specified in subsection (C).

B. A person shall file a Notice of Intent to Operate a Gray Water Irrigation System with the Department at least 90 days before the date the proposed activity will start. The Notice of Intent to Operate shall include:
1. The name, address and telephone number of the applicant;
2. The social security number of the applicant, if the applicant is an individual;
3. A legal description of the direct reuse site, including latitude and longitude coordinates;
4. The design plans for the gray water irrigation system;
5. A signature on the Notice of Intent to Operate certifying that the applicant agrees to comply with the requirements of this Article and the terms of this Reclaimed Water General Permit; and
6. The applicable permit fee specified under 18 A.A.C. 14.

C. The following technical requirements apply to the design and installation of a gray water irrigation system allowed under this Reclaimed Water General Permit:
1. Design of the gray water irrigation system shall meet the on-site wastewater treatment facility requirements under R18-9-A312(C), (D)(1), (D)(2), (E)(1), (G), and R18-9-E302(C)(1), except the septic tank specified in R18-9-E302(C)(1) is not required if pretreatment of gray water is not necessary for the intended application;
2. Design of the dispersal trenches for the gray water irrigation system shall meet the on-site wastewater treatment facility requirements for shallow trenches specified in R18-9-E302(C)(2);
3. The depth of the gray water dispersal trenches shall be appropriate for the intended irrigation use but not more than 5 feet below the finished grade of the native soil; and
4. The void space volume of the aggregate fill in the gray water dispersal trench below the bottom of the distribution pipe shall have enough capacity to contain two days of gray water at the design flow.

D. The Department may review design plans and details and accept a gray water irrigation system that differs from the requirements specified in subsection (C) if the system provides equivalent performance and protection of human health and water quality.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

R18-9-720. Enforcement and Penalties

Any person who violates a condition specified in a permit issued under this Article, falsifies data or information submitted to the Department as required under Articles 6 or 7 of this Chapter, or violates a provision of Article 6 or 7 of this Chapter, is subject to the enforcement actions prescribed under A.R.S. §§ 49-261 and 49-262.

Historical Note
New Section adopted by final rulemaking at 7 A.A.R. 758, effective January 16, 2001 (Supp. 01-1).

ARTICLE 8. REPEALED

R18-9-801. Repealed

Historical Note
Corrected A.R.S. reference (Supp. 77-3). Former Section R9-8-311 renumbered without change as Section R18-9-801 (Supp. 87-3). Amended effective December 1, 1988 (Supp. 88-4). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-802. Repealed

Historical Note
Amended by adding subsections (N) through (R) effective June 8, 1981 (Supp. 81-3). Former Section R9-8-312 renumbered without change as Section R18-9-802 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-803. Repealed

Historical Note
Amended effective April 18, 1979 (Supp. 79-2). Amended by adding subsection (E) effective October 2, 1986 (Supp. 86-5). Former Section R9-8-313 renumbered without change as Section R18-9-803 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effec-

tive December 8, 2000 (Supp. 00-4).

R18-9-804. Repealed

Historical Note
Amended effective April 18, 1979 (Supp. 79-2). Amended effective February 20, 1980 (Supp. 80-1). Amended by adding subsections (I) and (J) effective June 8, 1981 (Supp. 81-3). Amended subsections (A), (F) and (H) effective October 2, 1986 (Supp. 86-5). Former Section R9-8-314 renumbered without change as Section R18-9-804 (Supp. 87-3). Amended effective July 25, 1990 (Supp. 90-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-805. Repealed

Historical Note
Adopted effective April 18, 1979 (Supp. 79-2). Amended effective October 2, 1986 (Supp. 86-5). Former Section R9-8-315 renumbered without change as Section R18-9-805 (Supp. 87-3). Amended effective July 25, 1990 (Supp. 90-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-806. Repealed

Historical Note
Adopted effective October 2, 1986 (Supp. 86-5). Former Section R9-8-317 renumbered without change as Section R18-9-806 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-807. Repealed

Historical Note
Former Section R9-8-321 renumbered without change as Section R18-9-807 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-808. Repealed

Historical Note
Former Section R9-8-323 renumbered without change as Section R18-9-808 (Supp. 87-3). Amended effective July 25, 1990 (Supp. 90-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-809. Repealed

Historical Note
Former Section R9-8-324 renumbered without change as Section R18-9-809 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-810. Repealed

Historical Note
Former Section R9-8-325 renumbered without change as Section R18-9-810 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-811. Repealed

Historical Note
Former Section R9-8-326 repealed, new Section R9-8-326 adopted effective October 2, 1986 (Supp. 86-5). Former Section R9-8-326 renumbered without change as Section R18-9-811 (Supp. 87-3). First entry in Historical Note corrected to reflect Section numbers at time of rule repeal and adoption by changing R18-9-326 to R9-8-326 (Supp. 96-4). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-812. Repealed

Historical Note
Former Section R9-8-327 renumbered without change as Section R18-9-812 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-813. Repealed

Historical Note
Amended effective April 18, 1979 (Supp. 79-2). Former Section R9-8-329 renumbered without change as Section R18-9-813 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-814. Repealed

Historical Note
Former Section R9-8-331 renumbered without change as Section R18-9-814 (Supp. 87-3). Amended effective October 19, 1989 (Supp. 89-4). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-815. Repealed

Historical Note
Former Section R9-8-332 renumbered without change as Section R18-9-815 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-816. Repealed

Historical Note
Former Section R9-8-351 renumbered without change as Section R18-9-816 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-817. Repealed

Historical Note
Former Section R9-8-352 renumbered without change as Section R18-9-817 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-818. Repealed

Historical Note
Former Section R9-8-353 renumbered without change as Section R18-9-818 (Supp. 87-3). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

R18-9-819. Repealed

Historical Note
Former Section R9-8-361 renumbered without change as Section R18-9-819 (Supp. 87-3). Amended effective December 1, 1988 (Supp. 88-4). Section repealed by final rulemaking at 7 A.A.R. 235, effective December 8, 2000 (Supp. 00-4).

ARTICLE 9. ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM

Editor's Note: The recodification at 7 A.A.R. 2522 described below erroneously moved Sections into 18 A.A.C. 9, Article 9. Those Sections were actually recodified to 18 A.A.C. 9, Article 10. See the Historical Notes for more information (Supp. 01-4).

Article 9, consisting of Sections R18-9-901 through R18-9-914 and Appendix A, recodified from 18 A.A.C. 13, Article 15 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2).

PART A. GENERAL REQUIREMENTS

R18-9-A901. Definitions

In addition to the definitions in A.R.S. § 49-201 and 49-255, the following terms apply to this Article:

1. "Animal confinement area" means any part of an animal feeding operation where animals are restricted or confined including open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables.
2. "Animal feeding operation" means a lot or facility (other than an aquatic animal production facility) where the following conditions are met:
   a. Animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and
   b. Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.
3. "Aquaculture project" means a defined managed water area that uses discharges of pollutants into that designated project area for the maintenance or production of harvestable freshwater plants or animals. For purposes of this definition, "designated project area" means the portion or portions of the navigable waters within which the permittee or permit applicant plans to confine the cultivated species using a method or plan of operation, including physical confinement, that on the basis of reliable scientific evidence, is expected to ensure that specific individual organisms comprising an aquaculture crop will enjoy increased growth attributable to the discharge of pollutants, and be harvested within a defined geographic area.
4. "Border area" means 100 kilometers north and south of the Arizona-Sonora, Mexico border.
5. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
6. "CAFO" means any large concentrated animal feeding operation, medium concentrated animal feeding operation, or animal feeding operation designated under R18-9-D901.
7. "Concentrated aquatic animal production facility" means a hatchery, fish farm, or other facility that contains, grows, or holds aquatic animals in either of the following categories:
   a. Cold-water aquatic animals. Cold-water fish species or other cold-water aquatic animals (including the Salmonidae family of fish) in a pond, raceway, or other similar structure that discharges at least 30 days per year, but does not include:
      i. A facility that produces less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year; and
      ii. A facility that feeds the aquatic animals less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding.
   b. Warm-water aquatic animals. Warm-water fish species or other warm-water aquatic animals (including the Ameiuride, Centrarchidae, and Cyprinidae families of fish) in a pond, raceway, or other similar structure that discharges at least 30 days per year, but does not include:
      i. A closed pond that discharges only during periods of excess runoff; or
      ii. A facility that produces less than 45,454 harvest weight kilograms (approximately 100,000 pounds) of aquatic animals per year.
8. "Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.
9. "Discharge of a pollutant" means any addition of any pollutant or combination of pollutants to a navigable water from any point source.
   a. The term includes the addition of any pollutant into a navigable water from:
      i. A treatment works treating domestic sewage;
      ii. Surface runoff that is collected or channeled by man;
      iii. A discharge through a pipe, sewer, or other conveyance owned by a state, municipality, or other person that does not lead to a treatment works; and
      iv. A discharge through a pipe, sewer, or other conveyance, leading into a privately owned treatment works.
   b. The term does not include an addition of a pollutant by any industrial user as defined in A.R.S. § 49-255(4).
10. "Draft permit" means a document indicating the Director's tentative decision to issue, deny, modify, revoke and reissue, terminate, or reissue a permit.
    a. A notice of intent to terminate a permit is a type of draft permit unless the entire discharge is permanently terminated by elimination of the flow or by connection to a POTW, but not by land application or disposal into a well.
    b. A notice of intent to deny a permit is a type of draft permit.
    c. A proposed permit or a denial of a request for modification, revocation and reissuance, or termination of a permit, are not draft permits.
11. "EPA" means the U.S. Environmental Protection Agency.
12. "General permit" means an AZPDES permit issued under 18 A.A.C. 9, Article 9, authorizing a category of discharges within a geographical area.
13. "Individual permit" means an AZPDES permit for a single point source, a single facility, or a municipal separate storm sewer system.
14. "Land application area," for purposes of Article 9, Part D, means land under the control of an animal feeding operation owner or operator, whether it is owned, rented, or leased, to which manure, litter, or process wastewater from the production area is or may be applied.

15. "Large concentrated animal feeding operation" means an animal feeding operation that stables or confines at least the number of animals specified in any of the following categories:
    a. 700 mature dairy cows, whether milked or dry;
    b. 1,000 veal calves;
    c. 1,000 cattle other than mature dairy cows or veal calves. Cattle includes heifers, steers, bulls, and cow and calf pairs;
    d. 2,500 swine each weighing 55 pounds or more;
    e. 10,000 swine each weighing less than 55 pounds;
    f. 500 horses;
    g. 10,000 sheep or lambs;
    h. 55,000 turkeys;
    i. 30,000 laying hens or broilers, if the animal feeding operation uses a liquid manure handling system;
    j. 125,000 chickens (other than laying hens), if the animal feeding operation uses other than a liquid manure handling system;
    k. 82,000 laying hens, if the animal feeding operation uses other than a liquid manure handling system;
    l. 30,000 ducks, if the animal feeding operation uses other than a liquid manure handling system; or
    m. 5,000 ducks, if the animal feeding operation uses a liquid manure handling system.
16. "Large municipal separate storm sewer system" means a municipal separate storm sewer that is either:
    a. Located in an incorporated area with a population of 250,000 or more as determined by the 1990 Decennial Census by the Bureau of the Census;
    b. Located in a county with an unincorporated urbanized area with a population of 250,000 or more, according to the 1990 Decennial Census by the Bureau of Census, but not a municipal separate storm sewer that is located in an incorporated place, township, or town within the county; or
    c. Owned or operated by a municipality other than those described in subsections (16)(a) and (16)(b) and that are designated by the Director under R18-9-A902(D)(2) as part of the large municipal separate storm sewer system.
17. "Manure" means any waste or material mixed with waste from an animal including manure, bedding, compost and raw materials, or other materials commingled with manure or set aside for disposal.
18. "Manure storage area" means any part of an animal feeding operation where manure is stored or retained including lagoons, run-off ponds, storage sheds, stockpiles, under-house or pit storages, liquid impoundments, static piles, and composting piles.
19. "Medium concentrated animal feeding operation" means an animal feeding operation in which:
    a. The type and number of animals that it stables or confines falls within any of the following ranges:
        i. 200 to 699 mature dairy cows, whether milked or dry;
        ii. 300 to 999 veal calves;
        iii. 300 to 999 cattle other than mature dairy cows or veal calves. Cattle includes heifers, steers, bulls, and cow and calf pairs;
        iv. 750 to 2,499 swine each weighing 55 pounds or more;
        v. 3,000 to 9,999 swine each weighing less than 55 pounds;
        vi. 150 to 499 horses;
        vii. 3,000 to 9,999 sheep or lambs;
        viii. 16,500 to 54,999 turkeys;
        ix. 9,000 to 29,999 laying hens or broilers, if the animal feeding operation uses a liquid manure handling system;
        x. 37,500 to 124,999 chickens (other than laying hens), if the animal feeding operation uses other than a liquid manure handling system;
        xi. 25,000 to 81,999 laying hens, if the animal feeding operation uses other than a liquid manure handling system;
        xii. 10,000 to 29,999 ducks, if the animal feeding operation uses other than a liquid manure handling system; or
        xiii. 1,500 to 4,999 ducks, if the animal feeding operation uses a liquid manure handling system; and
    b. Either one of the following conditions are met:
        i. Pollutants are discharged into a navigable water through a man-made ditch, flushing system, or other similar man-made device; or
        ii. Pollutants are discharged directly into a navigable water that originates outside of and passes over, across, or through the animal feeding operation or otherwise comes into direct contact with the animals confined in the operation.
20. "Medium municipal separate storm sewer system" means a municipal separate storm sewer that is either:
    a. Located in an incorporated area with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census; or
    b. Located in a county with an unincorporated urbanized area with a population of 100,000 or more but less than 250,000 as determined by the 1990 Decennial Census by the Bureau of the Census; or
    c. Owned or operated by a municipality other than those described in subsections (20)(a) and (20)(b) and that are designated by the Director under R18-9-A902(D)(2) as part of the medium municipal separate storm sewer system.
21. "MS4" means municipal separate storm sewer system.
22. "Municipal separate storm sewer" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, and storm drains):
    a. Owned or operated by a state, city, town county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the Clean Water Act (33 U.S.C. 1288) that discharges to waters of the United States;
    b. Designed or used for collecting or conveying stormwater;
    c. That is not a combined sewer; and
    d. That is not part of a POTW.
23. "Municipal separate storm sewer system" means all separate storm sewers defined as "large," "medium," or "small" municipal separate storm sewer systems or any municipal separate storm sewers on a system-wide or jurisdiction-wide basis as determined by the Director under R18-9-C902(A)(1)(g)(i) through (iv).

24. "New discharger" includes an industrial user and means any building, structure, facility, or installation:
    a. From which there is or may be a discharge of pollutants;
    b. That did not commence the discharge of pollutants at a particular site before August 13, 1979;
    c. That is not a new source; and
    d. That has never received a finally effective NPDES or AZPDES permit for discharges at that site.
25. "New source" means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
    a. After the promulgation of standards of performance under section 306 of the Clean Water Act (33 U.S.C. 1316) that are applicable to the source, or
    b. After the proposal of standards of performance in accordance with section 306 of the Clean Water Act (33 U.S.C. 1316) that are applicable to the source, but only if the standards are promulgated under section 306 (33 U.S.C. 1316) within 120 days of their proposal.
26. "NPDES" means the National Pollutant Discharge Elimination System, which is the national program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment and biosolids requirements under sections 307 (33 U.S.C. 1317), 318 (33 U.S.C. 1328), 402 (33 U.S.C. 1342), and 405 (33 U.S.C. 1345) of the Clean Water Act.
27. "Pollutant" means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. It does not mean:
    a. Sewage from vessels; or
    b. Water, gas, or other material that is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of this state, and if the state determines that the injection or disposal will not result in the degradation of ground or surface water resources. (40 CFR 122.2)
28. "POTW" means a publicly owned treatment works.
29. "Process wastewater," for purposes of Article 9, Part D, means any water that comes into contact with a raw material, product, or byproduct including manure, litter, feed, milk, eggs, or bedding and water directly or indirectly used in the operation of an animal feeding operation for any or all of the following:
    a. Spillage or overflow from animal or poultry watering systems;
    b. Washing, cleaning, or flushing pens, barns, manure pits, or other animal feeding operation facilities;
    c. Direct contact swimming, washing, or spray cooling of animals; or
    d. Dust control.
30. "Proposed permit" means an AZPDES permit prepared after the close of the public comment period (including EPA review), and any applicable public hearing and administrative appeal, but before final issuance by the Director. A proposed permit is not a draft permit.
31. "Pretreatment" means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater before or instead of discharging or otherwise introducing the pollutants into a POTW.
32. "Production area," for purposes of Article 9, Part D, means the animal confinement area, manure storage area, raw materials storage area, and waste containment areas. Production area includes any egg washing or egg processing facility and any area used in the storage, handling, treatment, or disposal of animal mortalities.
33. "Raw materials storage area" means the part of an animal feeding operation where raw materials are stored including feed silos, silage bunkers, and bedding materials.
34. "Silviculture point source" means any discernible, confined, and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities that are operated in connection with silvicultural activities and from which pollutants are discharged into navigable waters. The term does not include nonpoint source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff. For purposes of this definition:
    a. "Log sorting and log storage facilities" means facilities whose discharge results from the holding of unprocessed wood, for example, logs or round wood with or without bark held in self-contained bodies of water or stored on land if water is applied intentionally on the logs.
    b. "Rock crushing and gravel washing facilities" mean facilities that process crushed and broken stone, gravel, and riprap.
35. "Small municipal separate storm sewer system" means a separate storm sewer that is:
    a. Owned or operated by the United States, a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act (33 U.S.C. 1288) that discharge to navigable waters.
    b. Not defined as a "large" or "medium" municipal separate storm sewer system or designated under R18-9-A902(D)(2).
    c. Similar to municipal separate storm sewer systems such as systems at military bases, large hospital or prison complexes, universities, and highways and other thoroughfares. The term does not include a separate storm sewer in a very discrete area such as an individual building.
36. "Stormwater" means stormwater runoff, snow melt runoff, and surface runoff and drainage.
37. "Treatment works treating domestic sewage" means a POTW or any other sewage sludge or waste water treatment device or system, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage

sludge. This definition does not include septic tanks or similar devices. For purposes of this definition, "domestic sewage" includes waste and wastewater from humans or household operations that are discharged to or otherwise enter a treatment works.

38. "Waste containment area" means any part of an animal feeding operation where waste is stored or contained including settling basins and areas within berms and diversions that separate uncontaminated stormwater.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-A902. AZPDES Permit Transition, Applicability, and Exclusions

A. Upon the effective date of EPA approval of the AZPDES program, the Department shall, under A.R.S. Title 49, Chapter 2, Article 3.1 and Articles 9 and 10 of this Chapter, administer any permit authorized or issued under the NPDES program, including an expired permit that EPA has continued in effect under 40 CFR 122.6.

1. The Director shall give a notice to all Arizona NPDES permittees, except NPDES permittees located on and discharging in Indian Country, and shall publish a notice in one or more newspapers of general circulation in the state. The notice shall contain:
   a. The effective date of EPA approval of the AZPDES program;
   b. The name and address of the Department;
   c. The name of each individual permitted facility and its permit number;
   d. The title of each general permit administered by the Department;
   e. The name and address of the contact person, to which the permittee will submit notification and monitoring reports;
   f. Information specifying the state laws equivalent to the federal laws or regulations referenced in a NPDES permit; and
   g. The name, address, and telephone number of a person from whom an interested person may obtain further information about the transition.
2. The Department shall provide the following entities with a copy of the notice:
   a. Each county department of health, environmental services, or comparable department;
   b. Each Arizona council of government, tribal government, the states of Utah, Nevada, New Mexico, and California, and EPA Region 9;
   c. Any person who requested, in writing, notification of the activity;
   d. The Mexican Secretaria de Medio Ambiente y Recursos Naturales, and
   e. The United States Section of the International Boundary and Water Commission.
3. If a timely application for a NPDES permit is submitted to EPA before approval of the AZPDES program, the applicant may continue the process with EPA or request the Department to act on the application. In either case, the Department shall issue the permit.
4. The terms and conditions under which the permit was issued remain the same until the permit is modified.

B. Article 9 of this Chapter applies to any "discharge of a pollutant." Examples of categories that result in a "discharge of a pollutant" and may require an AZPDES permit include:

1. CAFOs;
2. Concentrated aquatic animal production facilities;
3. Case-by-case designation of concentrated aquatic animal production facilities;
   a. The Director may designate any warm- or cold-water aquatic animal production facility as a concentrated aquatic animal production facility upon determining that it is a significant contributor of pollution to navigable waters. The Director shall consider the following factors when making this determination:
      i. The location and quality of the receiving waters of the United States;
      ii. The holding, feeding, and production capacities of the facility;
      iii. The quantity and nature of the pollutants reaching navigable waters; and
      iv. Any other relevant factor;
   b. A permit application is not required from a concentrated aquatic animal production facility designated under subsection (B)(3)(a) until the Director conducts an onsite inspection of the facility and determines that the facility should and could be regulated under the AZPDES permit program;
4. Aquaculture projects;
5. Manufacturing, commercial, mining, and silviculture point sources;
6. POTWs;
7. New sources and new dischargers;
8. Stormwater discharges:
   a. Associated with industrial activity as defined under 40 CFR 122.26(b)(14), incorporated by reference in R18-9-A905(A)(1)(d). The Department shall not consider a discharge to be a discharge associated with industrial activity if the discharge is composed entirely of stormwater and meets the conditions of no exposure as defined under 40 CFR 122.26(g), incorporated by reference in R18-9-A905(A)(1)(d);
   b. From a large, medium, or small MS4;
   c. From a construction activity, including clearing, grading, and excavation, that results in the disturbance of:
      i. Equal to or greater than one acre or;
      ii. Less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one acre; but
      iii. Not including routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility;
   d. Any discharge that the Director determines contributes to a violation of a water quality standard or is a significant contributor of pollutants to a navigable water, which may include a discharge from a conveyance or system of conveyances (including roads with drainage systems and municipal streets) used for collecting and conveying stormwater runoff or a system of discharges from municipal separate storm sewers.

C. Articles 9 and 10 of this Chapter apply to the following biosolids categories and may require an AZPDES permit:

1. Treatment works treating domestic sewage that would not otherwise require an AZPDES permit; and

2. Using, applying, generating, marketing, transporting, and disposing of biosolids.

D. Director designation of MS4s.
1. The Director may designate and require any small MS4 located outside of an urbanized area to obtain an AZPDES stormwater permit. The Director shall base this designation on whether a stormwater discharge results in or has the potential to result in an exceedance of a water quality standard, including impairment of a designated use, or another significant water quality impact, including a habitat or biological impact.
   a. When deciding whether to designate a small MS4, the Director shall consider the following criteria:
      i. Discharges to sensitive waters,
      ii. Areas with high growth or growth potential,
      iii. Areas with a high population density,
      iv. Areas that are contiguous to an urbanized area,
      v. Small MS4s that cause a significant contribution of pollutants to a navigable water,
      vi. Small MS4s that do not have effective programs to protect water quality, and
      vii. Any other relevant criteria.
   b. The same requirements for small MS4s designated under 40 CFR 122.32(a)(1) apply to permits for designated MS4s not waived under R18-9-B901(A)(3).
2. The Director may designate an MS4 as part of a large or medium system due to the interrelationship between the discharges from a designated storm sewer and the discharges from a municipal separate storm sewer described under R18-9-A901(16)(a) and (b), or R18-9-A901(20)(a) or (b), as applicable. In making this determination, the Director shall consider the following factors:
   a. Physical interconnections between the municipal separate storm sewers;
   b. The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in R18-9-A901(16)(a) and R18-9-A901(20)(a);
   c. The quantity and nature of pollutants discharged to a navigable water;
   d. The nature of the receiving waters; and
   e. Any other relevant factor.
3. The Director shall designate a small MS4 that is physically interconnected with a MS4 that is regulated by the AZPDES program if the small MS4 substantially contributes to the pollutant loading of the regulated MS4.

E. Petitions. The Director may, upon a petition, designate as a large, medium or small MS4, a municipal separate storm sewer located within the boundaries of a region defined by a stormwater management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in R18-9-A901(16), R18-9-A901(20) or R18-9-A901(35), as applicable.

F. Phase-ins.
1. The Director may phase-in permit coverage for a small MS4 serving a jurisdiction with a population of less than 10,000 if a phasing schedule is developed and implemented for approximately 20 percent annually of all small MS4s that qualify for the phased-in coverage.
   a. If the phasing schedule is not yet approved for permit coverage, the Director shall, by December 9, 2002, determine whether to issue an AZPDES permit or allow a waiver under R18-9-B901(A)(3) for each eligible MS4.
   b. All regulated MS4s shall have coverage under an AZPDES permit no later than March 8, 2007.
2. The Director may provide a waiver under R18-9-B901(A)(3) for any municipal separate storm sewage system operating under a phase-in plan.

G. Exclusions. The following discharges do not require an AZPDES permit:
1. Discharge of dredged or fill material into a navigable water that is regulated under section 404 of the Clean Water Act (33 U.S.C. 1344);
2. The introduction of sewage, industrial wastes, or other pollutants into POTWs by indirect dischargers. Plans or agreements to switch to this method of disposal in the future do not relieve dischargers of the obligation to have and comply with a permit until all discharges of pollutants to a navigable water are eliminated. This exclusion does not apply to the introduction of pollutants to privately owned treatment works or to other discharges through a pipe, sewer, or other conveyance owned by the state, a municipality, or other party not leading to treatment works;
3. Any discharge in compliance with the instructions of an on-scene coordinator under 40 CFR 300, The National Oil and Hazardous Substances Pollution Contingency Plan; or 33 CFR 153.10(e), Control of Pollution by Oil and Hazardous Substances, Discharge Removal;
4. Any introduction of pollutants from a nonpoint source agricultural or silvicultural activity, including stormwater runoff from an orchard, cultivated crop, pasture, rangeland, and forest land, but not discharges from a concentrated animal feeding operation, concentrated aquatic animal production facility, silvicultural point source, or to an aquaculture project;
5. Return flows from irrigated agriculture;
6. Discharges into a privately owned treatment works, except as the Director requires under 40 CFR 122.44(m), which is incorporated by reference in R18-9-A905(A)(3)(d);
7. Discharges from conveyances for stormwater runoff from mining operations or oil and gas exploration, production, processing or treatment operations, or transmission facilities, composed entirely of flows from conveyances or systems of conveyances, including pipes, conduits, ditches, and channels, used for collecting and conveying precipitation runoff and that are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste product located on the site of the operations.

H. Conditional no exposure exclusion.
1. Discharges composed entirely of stormwater are not considered stormwater discharges associated with an industrial activity if there is no exposure, and the discharger satisfies the conditions under 40 CFR 122.26(g), which is incorporated by reference in R18-9-A905(A)(1)(d).
2. For purposes of this subsection:
   a. "No exposure" means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and runoff.
   b. "Industrial materials or activities" include material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products.
   c. "Material-handling activities" include storage, loading and unloading, transportation, or conveyance of

any raw material, intermediate product, final product, or waste product.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 2704, effective June 5, 2002 (Supp. 02-2). Amended by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-A903. Prohibitions

The Director shall not issue a permit:

1. If the conditions of the permit do not provide for compliance with the applicable requirements of A.R.S. Title 49, Chapter 2, Article 3.1; 18 A.A.C. 9, Articles 9 and 10; and the Clean Water Act;
2. Before resolution of an EPA objection to a draft or proposed permit under R18-9-A908(C);
3. If the imposition of conditions cannot ensure compliance with the applicable water quality requirements from Arizona or an affected state or tribe, or a federally promulgated water quality standard under 40 CFR 131.31;
4. If in the judgment of the Secretary of the U.S. Army, acting through the Chief of Engineers, the discharge will substantially impair anchorage and navigation in or on any navigable water;
5. For the discharge of any radiological, chemical, or biological warfare agent, or high-level radioactive waste;
6. For any discharge inconsistent with a plan or plan amendment approved under section 208(b) of the Clean Water Act (33 U.S.C. 1288); and
7. To a new source or a new discharger if the discharge from its construction or operation will cause or contribute to the violation of a water quality standard. The owner or operator of a new source or new discharger proposing to discharge into a water segment that does not meet water quality standards or is not expected to meet those standards even after the application of the effluent limitations required under R18-9-A905(A)(8), and for which the Department has performed a wasteload allocation for the proposed discharge, shall demonstrate before the close of the public comment period that:
   a. There are sufficient remaining wasteload allocations to allow for the discharge, and
   b. The existing dischargers into the segment are subject to schedules of compliance designed to bring the segment into compliance with water quality standards.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 2704, effective June 5, 2002 (Supp. 02-2).

R18-9-A904. Effect of a Permit

A. Except for a standard or prohibition imposed under section 307 of the Clean Water Act (33 U.S.C. 1317) for a toxic pollutant that is injurious to human health and standards for sewage sludge use or disposal under Article 10 of this Chapter, compliance with an AZPDES permit during its term constitutes compliance, for purposes of enforcement, with Article 9 of this Chapter. However, the Director may modify, revoke and reissue, suspend, or terminate a permit during its term for cause under R18-9-B906.

B. The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

C. The issuance of a permit does not authorize any injury to a person or property or invasion of other private rights, or any infringement of federal, state, or local law, or regulations.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-A905. AZPDES Program Standards

A. Except for subsection (A)(11), the following 40 CFR sections and appendices, July 1, 2003 edition, as they apply to the NPDES program, are incorporated by reference, do not include any later amendments or editions of the incorporated matter, and are on file with the Department:

1. General program requirements.
   a. 40 CFR 122.7;
   b. 40 CFR 122.21, except 40 CFR 122.21(a) through (e) and (l);
   c. 40 CFR 122.22;
   d. 40 CFR 122.26, except 40 CFR 122.26(c)(2), and 40 CFR 122.26(e)(2);
   e. 40 CFR 122.29;
   f. 40 CFR 122.32;
   g. 40 CFR 122.33;
   h. 40 CFR 122.34;
   i. 40 CFR 122.35;
   j. 40 CFR 122.62(a) and (b).
2. Procedures for Decision making.
   a. 40 CFR 124.8, except 40 CFR 124.8(b)(3); and
   b. 40 CFR 124.56.
3. Permit requirements and conditions.
   a. 40 CFR 122.41, except 40 CFR 122.41(a)(2) and (a)(3);
   b. 40 CFR 122.42;
   c. 40 CFR 122.43;
   d. 40 CFR 122.44;
   e. 40 CFR 122.45;
   f. 40 CFR 122.47;
   g. 40 CFR 122.48; and
   h. 40 CFR 122.50.
4. Criteria and standards for the national pollutant discharge elimination system. 40 CFR 125, subparts A, B, D, H, and I.
5. Toxic pollutant effluent standards. 40 CFR 129.
6. Secondary treatment regulation. 40 CFR 133.
7. Guidelines for establishing test procedures for the analysis of pollutants, 40 CFR 136.
8. Effluent guidelines and standards.
   a. General provisions, 40 CFR 401; and
   b. General pretreatment regulations for existing and new sources of pollution, 40 CFR 403 and Appendices A, D, E, and G.
9. Effluent limitations guidelines. 40 CFR 405 through 40 CFR 471.
10. Standards for the use or disposal of sewage sludge. 40 CFR 503, Subpart C.
11. The following substitutions apply to the material in subsections (A)(1) through (A)(10):
    a. Substitute the term AZPDES for any reference to NPDES;
    b. Except for 40 CFR 122.21(f) through (q), substitute R18-9-B901 (individual permit), and R18-9-C901 (general permit), for any reference to 40 CFR 122.21;
    c. Substitute Articles 9 and 10 of this Chapter for any reference to 40 CFR 122;

d. Substitute R18-9-C901 for any reference to 40 CFR 122.28;
e. Substitute R18-9-B901 (individual permit), and R18-9-C901 (general permit), for any reference to 40 CFR 122 subpart B;
f. Substitute Articles 9 and 10 of this Chapter for any reference to 40 CFR 123;
g. Substitute Articles 9 and 10 of this Chapter for any reference to 40 CFR 124;
h. Substitute R18-9-1006 for any reference to 40 CFR 503.32; and
i. Substitute R18-9-1010 for any reference to 40 CFR 503.33.

B. A person shall analyze a pollutant using a test procedure for the pollutant specified by the Director in an AZPDES permit. If the Director does not specify a test procedure for a pollutant in an AZPDES permit, a person shall analyze the pollutant using:
1. A test procedure listed in 40 CFR 136, which is incorporated by reference in subsection (A)(7);
2. An alternate test procedure approved by the EPA as provided in 40 CFR 136;
3. A test procedure listed in 40 CFR 136, with modifications allowed by the EPA and approved as a method alteration by the Arizona Department of Health Services under A.A.C. R9-14-610(B); or
4. If a test procedure for a pollutant is not available under subsection (B)(1) through (B)(3), a test procedure listed in A.A.C. R9-14-612 or approved under A.A.C. R9-14-610(B).

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 2704, effective June 5, 2002 (Supp. 02-2). Amended by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-A906. General Pretreatment Regulations for Existing and New Sources of Pollution

A. The reduction or alteration of a pollutant may be obtained by physical, chemical, or biological processes, process changes, or by other means, except as prohibited under 40 CFR 403.6(d), which is incorporated by reference in R18-9-A905(A)(8)(b). Appropriate pretreatment technology includes control equipment, such as equalization tanks or facilities, for protection against surges or slug loading that might interfere with or otherwise be incompatible with the POTW. However, if wastewater from a regulated process is mixed in an equalization facility with unregulated wastewater or with wastewater from another regulated process, the effluent from the equalization facility shall meet an adjusted pretreatment limit calculated under 40 CFR 403.6(e), which is incorporated by reference in R18-9-A905(A)(8)(b).

B. Pretreatment applies to:
1. Pollutants from non-domestic sources covered by pretreatment standards that are indirectly discharged, transported by truck or rail, or otherwise introduced into POTWs;
2. POTWs that receive wastewater from sources subject to national pretreatment standards; and
3. Any new or existing source subject to national pretreatment standards.

C. National pretreatment standards do not apply to sources that discharge to a sewer that is not connected to a POTW.

D. For purposes of this Section the terms "National Pretreatment Standard" and "Pretreatment Standard" mean any regulation containing pollutant discharge limits promulgated by EPA under section 307(b) and (c) of the Clean Water Act (33 U.S.C. 1317), which applies to Industrial Users. This term includes prohibitive discharge limits established under 40 CFR 403.5.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-A907. Public Notice

A. Individual permits.
1. The Director shall publish a notice that a draft individual permit has been prepared, or a permit application has been tentatively denied, in one or more newspapers of general circulation where the facility is located. The notice shall contain:
   a. The name and address of the Department;
   b. The name and address of the permittee or permit applicant and if different, the name of the facility or activity regulated by the permit;
   c. A brief description of the business conducted at the facility or activity described in the permit application;
   d. The name, address, and telephone number of a person from whom an interested person may obtain further information, including copies of the draft permit, fact sheet, and application;
   e. A brief description of the comment procedures, the time and place of any hearing, including a statement of procedures to request a hearing (unless a hearing has already been scheduled), and any other procedure by which the public may participate in the final permit decision;
   f. A general description of the location of each existing or proposed discharge point and the name of the receiving water;
   g. For sources subject to section 316(a) of the Clean Water Act, a statement that the thermal component of the discharge is subject to effluent limitations under the Clean Water Act, section 301 (33 U.S.C. 1311) or 306 (33 U.S.C. 1316) and a brief description, including a quantitative statement, of the thermal effluent limitations proposed under section 301 (33 U.S.C. 1311) or 306 (33 U.S.C. 1316);
   h. Requirements applicable to cooling water intake structures at new facilities subject to 40 CFR 125, subpart I; and
   i. Any additional information considered necessary to the permit decision.
2. The Department shall provide the applicant with a copy of the draft individual permit.
3. Copy of the notice. The Department shall provide the following entities with a copy of the notice:
   a. The applicant or permittee;
   b. Any user identified in the permit application of a privately owned treatment works;
   c. Any affected federal, state, tribal, or local agency, or council of government;
   d. Federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources, the Arizona Historic Preservation Office, and the U.S. Army Corps of Engineers;
   e. Each applicable county department of health, environmental services, or comparable department;
   f. Any person who requested, in writing, notification of the activity; and

g. The Secretaria de Medio Ambiente y Recursos Naturales and the United States Section of the International Boundary and Water Commission, if the Department is aware the effluent discharge is expected to reach Sonora, Mexico, either through surface water or groundwater.

B. General permits. If the Director considers issuing a general permit applicable to a category of discharge under R18-9-C901, the Director shall publish a general notice of the draft permit in the *Arizona Administrative Register*. The notice shall contain:
1. The name and address of the Department,
2. The name of the person to contact regarding the permit,
3. The general permit category,
4. A brief description of the proposed general permit,
5. A map or description of the permit area,
6. The web site or any other location where the proposed general permit may be obtained, and
7. The ending date for public comment.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-A908. Public Participation, EPA Review, EPA Hearing

A. Public comment period.
1. The Director shall accept written comments from any interested person before a decision is made on any notice published under R18-9-A907(A) or (B).
2. The public comment period begins on the publication date of the notice and extends for 30 calendar days.
3. The Director may extend the comment period to provide commenters a reasonable opportunity to participate in the decision-making process.
4. If any data, information, or arguments submitted during the public comment period appear to raise substantial new questions concerning a permit, the Director may reopen or extend the comment period to provide interested persons an opportunity to comment on the information or arguments submitted. Comments filed during a reopened comment period are limited to the substantial new questions that caused its reopening.
   a. Corps of Engineers.
      i. If the District Engineer advises the Director that denying the permit or imposing specified conditions upon a permit is necessary to avoid any substantial impairment of anchorage or navigation, then the Director shall deny the permit or include the specified conditions in the permit.
      ii. A person shall use the applicable procedures of the Corps of Engineers Review and not the procedures under this Article to appeal the denial of a permit or conditions specified by the District Engineer.
      iii. If the conditions are stayed by a court of competent jurisdiction or by applicable procedures of the Corps of Engineers, those conditions are considered stayed in the AZPDES permit for the duration of that stay.
   b. If an agency with jurisdiction over fish, wildlife, or public health advises the Director in writing that the imposition of specified conditions upon the permit is necessary to avoid substantial impairment of fish, shellfish, or wildlife resource, the Director may include the specified conditions in the permit to the extent they are determined necessary to carry out the provisions of the Clean Water Act.

B. Public hearing.
1. The Director shall provide notice and conduct a public hearing to address a draft permit or denial regarding a final decision if:
   a. Significant public interest in a public hearing exists, or
   b. Significant issues or information have been brought to the attention of the Director during the comment period that was not considered previously in the permitting process.
2. If, after publication of the notice under R18-9-A907, the Director determines that a public hearing is necessary, the Director shall schedule a public hearing and publish notice of the public hearing at least once, in one or more newspapers of general circulation where the facility is located. The notice for public hearing shall contain:
   a. The date, time, and place of the hearing;
   b. Reference to the date of a previous public notice relating to the proposed decision, if any; and
   c. A brief description of the nature and purpose of the hearing, including reference to the applicable laws and rules.
3. The Department shall accept written public comment until the close of the hearing or until a later date specified by the person presiding at the public hearing.

C. EPA review of draft and proposed permits.
1. Individual permits.
   a. The Department shall send a copy of the draft permit to EPA.
   b. If EPA objects to the draft permit within 30 days from the date of receipt of the draft permit, the EPA comment period is extended to 90 days from the date of receipt of the draft permit and the substantive review time-frame is suspended until EPA makes a final determination.
   c. If, based on public comments, the Department revises the draft permit, the Department shall send EPA a copy of the proposed permit. If EPA objects to the proposed permit within 30 days from the date of receipt of the proposed permit, the EPA comment period is extended to 90 days from the date of receipt of the proposed permit and the substantive review time-frame is suspended until EPA makes a final determination.
   d. If EPA withdraws its objection to the draft or proposed permit or does not submit specific objections within 90 days, the Director shall issue the permit.
2. General permits. The Director shall send a copy of the draft permit to EPA and comply with the following review procedure for EPA comments:
   a. If EPA objects to the draft permit within 90 days from receipt of the draft permit, the Department shall not issue the permit until the objection is resolved;
   b. If, based on public comments, the Department revises the draft permit, the Department shall send EPA a copy of the proposed permit. If EPA objects to the proposed permit within 90 days from receipt of the proposed permit, the Department shall not issue the permit until the objection is resolved;
   c. If EPA withdraws its objection to the draft or proposed permit or does not submit specific objections within 90 days, the Director shall issue the permit.

D. EPA hearing. Within 90 days of receipt by the Director of a specific objection by EPA, the Director or any interested person may request that EPA hold a public hearing on the objection.
1. If following the public hearing EPA withdraws the objection, the Director shall issue the permit.
2. If a public hearing is not held, and EPA reaffirms the original objection, or modifies the terms of the objection, and the Director does not resubmit a permit revised to meet the EPA objection within 90 days of receipt of the objection, EPA may issue the permit for one term. Following the completion of the permit term, authority to issue the permit reverts to the Department.
3. If a public hearing is held and EPA does not withdraw an objection or modify the terms of the objection, and the Director does not resubmit a permit revised to meet the EPA objection within 30 days of notification of the EPA objection, EPA may issue the permit for one permit term. Following the completion of the permit term, authority to issue the permit reverts to the Department.
4. If EPA issues the permit instead of the Director, the Department shall close the application file.

E. Final permit determination.
1. Individual permits. At the same time the Department notifies a permittee or an applicant of the final individual permit determination, the Department shall send, through regular mail, a notice of the determination to any person who submitted comments or attended a public hearing on the final individual permit determination. The Department shall:
   a. Specify the provisions, if any, of the draft individual permit that have been changed in the final individual permit determination, and the reasons for the change; and
   b. Briefly describe and respond to all significant comments on the draft individual permit or the permit application raised during the public comment period, or during any hearing.
2. General permits. The Director shall publish a general notice of the final permit determination in the *Arizona Administrative Register*. The notice shall:
   a. Specify the provisions, if any, of the draft general permit that have been changed in the final general permit determination, and the reasons for the change;
   b. Briefly describe and respond to all significant comments on the draft general permit raised during the public comment period, or during any hearing; and
   c. Specify where a copy of the final general permit may be obtained.
3. The Department shall make the response to comments available to the public.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-A909. Petitions

A. Any person may submit a petition to the Director requesting:
1. The issuance of a general permit;
2. An individual permit covering any discharge into an MS4 under 40 CFR 122.26(f), which is incorporated by reference in R18-9-A905(A)(1)(d); or
3. An individual permit under R18-9-C902(B)(1).

B. The petition shall contain:
1. The name, address, and telephone number of the petitioner;
2. The location of the facility;
3. The exact nature of the petition, and
4. Evidence of the validity of the petition.

C. The Department shall provide the permittee with a copy of the petition.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

PART B. INDIVIDUAL PERMITS

R18-9-B901. Individual Permit Application

A. Time to apply.
1. Any person who owns or operates a facility covered by R18-9-A902(B) or R18-9-A902(C), shall apply for an AZPDES individual permit at least 180 days before the date of the discharge or a later date if granted by the Director, unless the person:
   a. Is exempt under R18-9-A902(G);
   b. Is covered by a general permit under Article 9, Part C of this Chapter; or
   c. Is a user of a privately owned treatment works, unless the Director requires a permit under 40 CFR 122.44(m).
2. Construction. Any person who proposes a construction activity under R18-9-A902(B)(9)(c) or R18-9-A902(B)(9)(d) and wishes coverage under an individual permit, shall apply for the individual permit at least 90 days before the date on which construction is to commence.
3. Waivers.
   a. Unless the Director grants a waiver under 40 CFR 122.32, a person operating a small MS4 is regulated under the AZPDES program.
   b. The Director shall review any waiver granted under subsection (A)(3)(a) at least every five years to determine whether any of the information required for granting the waiver has changed.

B. Application. An individual permit applicant shall submit the following information on an application obtained from the Department. The Director may require more than one application from a facility depending on the number and types of discharges or outfalls.
1. Discharges, other than stormwater.
   a. The information required under 40 CFR 122.21(f) through (l);
   b. The signature of the certifying official required under 40 CFR 122.22;
   c. The name and telephone number of the operator, if the operator is not the applicant; and
   d. Whether the facility is located in the border area, and, if so:
      i. A description of the area into which the effluent discharges from the facility may flow, and
      ii. A statement explaining whether the effluent discharged is expected to cross the Arizona-Sonora, Mexico border.
2. Stormwater. In addition to the information required in subsection (B)(1)(c) and (B)(1)(d):
   a. For stormwater discharges associated with industrial activity, the application requirements under 40 CFR 122.26(c)(1);
   b. For large and medium MS4s, the application requirements under 40 CFR 122.26(d);
   c. For small MS4s:
      i. A stormwater management program under 40

CFR 122.34, and

ii. The application requirements under 40 CFR 122.33.

C. Consolidation of permit applications.

1. The Director may consolidate two or more permit applications for any facility or activity that requires a permit under Articles 9 and 10 of this Chapter.
2. Whenever a facility or activity requires an additional permit under Articles 9 and 10 of this Chapter, the Director may coordinate the expiration date of the new permit with the expiration date of an existing permit so that all permits expire simultaneously. The Department may then consolidate the processing of the subsequent applications for renewal permits.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-B902. Requested Coverage Under a General Permit

An owner or operator may request that an individual permit be revoked, if a source is excluded from a general permit solely because it already has an individual permit.

1. The Director shall grant the request for revocation of an individual permit upon determining that the permittee otherwise qualifies for coverage under a general permit.
2. Upon revocation of the individual permit, the general permit applies to the source.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-B903. Individual Permit Issuance or Denial

A. Once the application is complete, the Director shall tentatively decide whether to prepare a draft permit or to deny the application.

B. Permit issuance. If, based upon the information obtained by or available to the Department under R18-9-A907, R18-9-A908, and R18-9-B901, the Director determines that an applicant complies with A.R.S. Title 49, Chapter 2, Article 3.1 and Articles 9 and 10 of this Chapter, the Director shall issue a permit that is effective as prescribed in A.R.S. 49-255.01(H).

C. Permit denial.

1. If the Director decides to deny the permit application, the Director shall provide the applicant with a written notice of intent to deny the permit application. The written notification shall include:
   a. The reason for the denial with reference to the statute or rule on which the denial is based;
   b. The applicant's right to appeal the denial with the Water Quality Appeals Board under A.R.S. § 49-323, the number of days the applicant has to file a protest challenging the denial, and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
   c. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.
2. The Director shall provide an opportunity for public comment under R18-9-A907 and R18-9-A908 on a denial.
3. The decision of the Director to deny the permit application takes effect 30 days after the decision is served on the applicant, unless the applicant files an appeal under A.R.S. 49-255.01(H)(1).

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-B904. Individual Permit Duration, Reissuance, and Continuation

A. Permit duration.

1. An AZPDES individual permit is effective for a fixed term of not more than five years. The Director may issue a permit for a duration that is less than the full allowable term.
2. If the Director does not reissue a permit within the period specified in the permit, the permit expires, unless it is continued under subsection (C).
3. If a permittee of a large or medium MS4 allows a permit to expire by failing to reapply within the time period specified in subsection (B), the permittee shall submit a new application under R18-9-B901 and follow the application requirements under 40 CFR 122.26(d), which is incorporated by reference in R18-9-A905(A)(1)(d).

B. Permit reissuance.

1. A permittee shall reapply for an individual permit at least 180 days before the permit expiration date.
2. Unless otherwise specified in the permit, an annual report submitted 180 days before the permit expiration date satisfies the reapplication requirement for an MS4 permit. The annual report shall contain:
   a. The name, address, and telephone number of the MS4;
   b. The name, address, and telephone number of the contact person;
   c. The status of compliance with permit conditions, including an assessment of the appropriateness of the selected best management practices and progress toward achieving the selected measurable goals for each minimum measure;
   d. The results of any information collected and analyzed, including monitoring data, if any;
   e. A summary of the stormwater activities planned for the next reporting cycle;
   f. A change in any identified best management practices or measurable goals for any minimum measure; and
   g. Notice of relying on another governmental entity to satisfy some of the permit obligations.

C. Continuation. A NPDES or AZPDES individual permit may continue beyond its expiration date if:

1. The permittee has submitted a complete application for an AZPDES individual permit at least 180 days before the expiration date of the existing permit and the permitted activity is of a continuing nature; and
2. The Department is unable, through no fault of the permittee, to issue an AZPDES individual permit on or before the expiration date of the existing permit.

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-B905. Individual Permit Transfer

A. A permittee may request the Director to transfer an individual permit to a new permittee. The Director may modify, or revoke and reissue the permit to identify the new permittee, or make a minor modification to identify the new permittee.

B. Automatic transfer. The Director may automatically transfer an individual permit to a new permittee if:

1. The current permittee notifies the Director by certified mail at least 30 days in advance of the proposed transfer date and includes a written agreement between the exist-

ing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

2. The Director does not notify the existing permittee and the proposed new permittee of the Director's intent to modify, or revoke and reissue the permit. A modification under this subsection may include a minor modification specified in R18-9-B906(B).

Historical Note

New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-B906. Modification, Revocation and Reissuance, and Termination of Individual Permits

A. Permit modification, revocation and reissuance.

1. The Director may modify, or revoke and reissue an individual permit for any of the following reasons:
   a. The Director receives a written request from an interested person;
   b. The Director receives information, such as when inspecting a facility;
   c. The Director receives a written request to modify, or revoke and reissue a permit from a permittee as required in the individual permit; or
   d. After review of a permit file, the Director determines one or more of the causes listed under 40 CFR 122.62(a) or (b) exists.
      i. If the Director decides a written request is not justified under 40 CFR 122.62 or subsection (B), the Director shall send the requester a brief written response giving a reason for the decision.
      ii. The denial of a request for modification, or revocation and reissuance is not subject to public notice, comment, or hearing under R18-9-A907 and R18-9-A908(A) and (B).
2. If the Director tentatively decides to modify, or revoke and reissue an individual permit, the Director shall prepare a draft permit incorporating the proposed changes. The Director may request additional information and, in the case of a modified permit, may require the submission of an updated application.
   a. Modified individual permit. The Director shall reopen only the modified conditions when preparing a new draft permit and process the modifications.
   b. Revoked and reissued individual permit.
      i. The permittee shall submit a new application.
      ii. The Director shall reopen the entire permit just as if the permit had expired and was being reissued.
3. During any modification, or revocation and reissuance proceeding, the permittee shall comply with all conditions of the existing permit until a new final permit is issued.

B. Minor modifications.

1. Upon consent of the permittee, the Director may make any of the following modifications to an individual permit:
   a. Correct typographical errors;
   b. Update a permit condition that changed as a result of updating an Arizona water quality standard;
   c. Require more frequent monitoring or reporting by the permittee;
   d. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;
   e. Allow for a change in ownership or operational control of a facility, if no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director;
   f. Change the construction schedule for a new source discharger. The change shall not affect a discharger's obligation to have all pollution control equipment installed and in operation before the discharge;
   g Delete a point source outfall if the discharge from that outfall is terminated and does not result in a discharge of pollutants from other outfalls except under permit limits;
   h. Incorporate conditions of a POTW pretreatment program approved under 40 CFR 403.11 and 40 CFR 403.18, which is incorporated by reference in R18-9-A905(A)(7)(b) as enforceable conditions of the permit, and
   i. Annex an area by a municipality.
2. Any modification processed under subsection (B)(1) is not subject to the public notice provision under R18-9-A907 or public participation procedures under R18-9-A908.

C. Permit termination.

1. The Director may terminate an individual permit during its term or deny reissuance of a permit for any of the following causes:
   a. The permittee's failure to comply with any condition of the permit;
   b. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant fact;
   c. The Director determined that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
   d. A change occurs in any condition that requires either a temporary or permanent reduction or elimination of any discharge, sludge use, or disposal practice controlled by the permit, for example, a plant closure or termination of discharge by connection to a POTW.
2. If the Director terminates a permit during its term or denies a permit renewal application for any cause listed in subsection (C)(1), the Director shall issue a Notice of Intent to Terminate, except when the entire discharge is terminated.
   a. Unless the permittee objects to the termination notice within 30 days after the notice is sent, the termination is final at the end of the 30 days.
   b. If the permittee objects to the termination notice, the permittee shall respond in writing to the Director within 30 days after the notice is sent.
   c. Expedited permit termination. If a permittee requests an expedited permit termination procedure, the permittee shall certify that the permittee is not subject to any pending state or federal enforcement actions, including citizen suits brought under state or federal law.

d. The denial of a request for termination is not subject to public notice, comment, or hearing under R18-9-A907 and R18-9-A908(A) and (B).

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-B907. Individual Permit Variances

A. The Director may grant or deny a request for any of the following variances:
1. An extension under section 301(i) of the Clean Water Act (33 U.S.C. 1311) based on a delay in completion of a POTW;
2. After consultation with EPA, an extension under section 301(k) of the Clean Water Act (33 U.S.C. 1311) based on the use of innovative technology;
3. A variance under section 316(a) of the Clean Water Act (33 U.S.C. 1326) for thermal pollution, or
4. A variance under R18-11-122 for a water quality standard.

B. The Director may deny, forward to EPA with a written concurrence, or submit to EPA without recommendation a completed request for:
1. A variance based on the economic capability of the applicant under section 301(c) of the Clean Water Act (33 U.S.C. 1311); or
2. A variance based on water quality related effluent limitations under 302(b)(2) (33 U.S.C. 1312) of the Clean Water Act.

C. The Director may deny or forward to EPA with a written concurrence a completed request for:
1. A variance based on the presence of fundamentally different factors from those on which an effluent limitations guideline is based; and
2. A variance based upon water quality factors under section 301(g) of the Clean Water Act (33 U.S.C. 1311).

D. If the Department approves a variance under subsection (A) or if EPA approves a variance under subsection (B) or (C), the Director shall prepare a draft permit incorporating the variance. Any public notice of a draft permit for which a variance or modification has been approved or denied shall identify the applicable procedures for appealing the decision.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

PART C. GENERAL PERMITS

R18-9-C901. General Permit Issuance

A. The Director may issue a general permit to cover one or more categories of discharges, sludge use, or disposal practices, or facilities within a geographic area corresponding to existing geographic or political boundaries, if the sources within a covered category of discharges are either:
1. Stormwater point sources; or
2. One or more categories of point sources other than stormwater point sources, or one or more categories of treatment works treating domestic sewage, if the sources, or treatment works treating domestic sewage, within each category all:
   a. Involve the same or substantially similar types of operations;
   b. Discharge the same types of wastes or engage in the same types of sludge use or disposal practices;
   c. Require the same effluent limitations, operating conditions, or standards for sludge use or disposal;
   d. Require the same or similar monitoring; and
   e. Are more appropriately controlled under a general permit than under an individual permit.

B. Any person seeking coverage under a general permit issued under subsection (A) shall submit a Notice of Intent on a form provided by the Department within the time-frame specified in the general permit unless exempted under the general permit as provided in subsection (C)(2). The person shall not discharge before the time specified in the general permit unless the discharge is authorized by another permit.

C. Exemption from filing a Notice of Intent.
1. The following dischargers are not exempt from submitting a Notice of Intent:
   a. A discharge from a POTW;
   b. A combined sewer overflow;
   c. A MS4;
   d. A primary industrial facility;
   e. A stormwater discharge associated with industrial activity;
   f. A CAFO;
   g. A treatment works treating domestic sewage; and
   h. A stormwater discharge associated with construction activity.
2. For dischargers not listed in subsection (C)(1), the Director may consider a Notice of Intent inappropriate for the discharge and authorize the discharge under a general permit without a Notice of Intent. In making this finding, the Director shall consider:
   a. The type of discharge,
   b. The expected nature of the discharge,
   c. The potential for toxic and conventional pollutants in the discharge,
   d. The expected volume of the discharge,
   e. Other means of identifying the discharges covered by the permit, and
   f. The estimated number of discharges covered by the permit.
3. The Director shall provide reasons for not requiring a Notice of Intent for a general permit in the public notice.

D. Notice of Intent. The Director shall specify the contents of the Notice of Intent in the general permit and the applicant shall submit information sufficient to establish coverage under the general permit, including, at a minimum:
1. The name, position, address, and telephone number of the owner of the facility;
2. The name, position, address, and telephone number of the operator of the facility, if different from subsection (D)(1);
3. The name and address of the facility;
4. The type and location of the discharge;
5. The receiving streams;
6. The latitude and longitude of the facility;
7. For a CAFO, the information specified in 40 CFR 122.21(i)(1) and a topographic map;
8. The signature of the certifying official required under 40 CFR 122.22; and
9. Any other information necessary to determine eligibility for the AZPDES general permit.

E. The general permit shall contain:
1. The expiration date; and
2. The appropriate permit requirements, permit conditions, and best management practices, and measurable goals for MS4 general permits, under R18-9-A905(A)(1), R18-9-A905(A)(2), and R18-9-A905(A)(3) and determined by the Director as necessary and appropriate for the protection of navigable waters.

F. The Department shall inform a permittee if EPA requests the permittee's Notice of Intent, unless EPA requests that the permittee not be notified.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-C902. Required and Requested Coverage Under an Individual Permit

A. Individual permit requirements.
1. The Director may require a person authorized by a general permit to apply for and obtain an individual permit for any of the following cases:
   a. A discharger or treatment works treating domestic sewage is not in compliance with the conditions of the general permit;
   b. A change occurs in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source or treatment works treating domestic sewage;
   c. Effluent limitation guidelines are promulgated for point sources covered by the general permit;
   d. An Arizona Water Quality Management Plan containing requirements applicable to the point sources is approved;
   e. Circumstances change after the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary;
   f. Standards for sewage sludge use or disposal are promulgated for the sludge use and disposal practices covered by the general permit; or
   g. If the Director determines that the discharge is a significant contributor of pollutants. When making this determination, the Director shall consider:
      i. The location of the discharge with respect to navigable waters,
      ii. The size of the discharge,
      iii. The quantity and nature of the pollutants discharged to navigable waters, and
      iv. Any other relevant factor.
2. If an individual permit is required, the Director shall notify the discharger in writing of the decision. The notice shall include:
   a. A brief statement of the reasons for the decision,
   b. An application form,
   c. A statement setting a deadline to file the application,
   d. A statement that on the effective date of issuance or denial of the individual permit, coverage under the general permit will automatically terminate,
   e. The applicant's right to appeal the individual permit requirement with the Water Quality Appeals Board under A.R.S. § 49-323, the number of days the applicant has to file a protest challenging the individual permit requirement, and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
   f. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.
3. The discharger shall apply for a permit within 90 days of receipt of the notice, unless the Director grants a later date. In no case shall the deadline be more than 180 days after the date of the notice.
4. If the permittee fails to submit the individual permit application within the time period established in subsection (A)(3), the applicability of the general permit to the permittee is automatically terminated at the end of the day specified by the Director for application submittal.
5. Coverage under the general permit shall continue until an individual permit is issued unless the permit coverage is terminated under subsection (A)(4).

B. Individual permit request.
1. An owner or operator authorized by a general permit may request an exclusion from coverage of a general permit by applying for an individual permit.
   a. The owner or operator shall submit an individual permit application under R18-9-B901(B) and include the reasons supporting the request no later than 90 days after publication of the general permit.
   b. The Director shall grant the request if the reasons cited by the owner or operator are adequate to support the request.
2. If an individual permit is issued to an owner or operator otherwise subject to a general permit, the applicability of the general permit to the discharge is automatically terminated on the effective date of the individual permit.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-C903. General Permit Duration, Reissuance, and Continuation

A. General permit duration.
1. An AZPDES general permit is effective for a fixed term of not more than five years. The Director may issue a permit for a duration that is less than the full allowable term.
2. If the Director does not reissue a general permit before the expiration date, the current general permit will be administratively continued and remain in force and effect until the general permit is reissued.

B. Continued coverage. Any permittee granted permit coverage before the expiration date automatically remains covered by the continued permit until the earlier of:
1. Reissuance or replacement of the permit, at which time the permittee shall comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or
2. The date the permittee has submitted a Notice of Termination; or
3. The date the Director has issued an individual permit for the discharge; or
4. The date the Director has issued a formal permit decision not to reissue the general permit, at which time the permittee shall seek coverage under an alternative general permit or an individual permit.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-C904. Change of Ownership or Operator Under a General Permit

If a change of ownership or operator occurs for a facility operating under a general permit:
1. Permitted owner or operator. The permittee shall provide the Department with a Notice of Termination by certified mail within 30 days after the new owner or operator assumes responsibility for the facility.

a. The Notice of Termination shall include all requirements for termination specified in the general permit for which the Notice of Termination is submitted.
b. A permittee shall comply with the permit conditions specified in the general permit for which the Notice of Termination is submitted until the Notice of Termination is received by the Department.

2. New owner or operator.
a. The new owner or operator shall complete and file a Notice of Intent with the Department within the time period specified in the general permit before taking over operational control of, or initiation of activities at, the facility.
b. If the previous permittee was required to implement a stormwater pollution prevention plan, the new owner shall develop a new stormwater pollution prevention plan, or may modify, certify, and implement the old stormwater pollution prevention plan if the old stormwater pollution prevention plan complies with the requirements of the current general permit.
c. The permittee shall provide the Department with a Notice of Termination if a permitted facility ceases operation, ceases to discharge, or changes operator status. In the case of a construction site, the permittee shall submit a Notice of Termination to the Department when:
i. The facility ceases construction operations and the discharge is no longer associated with construction or construction-related activities,
ii. The construction is complete and final site stabilization is achieved, or
iii. The operator's status changes.

Historical Note
New Section made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-C905. General Permit Modification and Revocation and Reissuance

A. The Director may modify or revoke a general permit issued under R18-9-A907(B), R18-9-A908, and R18-9-C901 if one or more of the causes listed under 40 CFR 122.62(a) or (b) exists.
B. The Director shall follow the procedures specified in R18-9-A907(B) and R18-9-A908 to modify or revoke and reissue a general permit.

Historical Note
New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

PART D. ANIMAL FEEDING OPERATIONS AND CONCENTRATED ANIMAL FEEDING OPERATIONS

R18-9-D901. CAFO Designations

A. Two or more animal feeding operations under common ownership are considered a single animal feeding operation if they adjoin each other or if they use a common area or system for the disposal of wastes.
B. The Director shall designate an animal feeding operation as a CAFO if the animal feeding operation significantly contributes a pollutant to a navigable water. The Director shall consider the following factors when making this determination:
1. The size of the animal feeding operation and the amount of wastes reaching a navigable water;
2. The location of the animal feeding operation relative to a navigable water;
3. The means of conveyance of animal wastes and process wastewaters into a navigable water;
4. The slope, vegetation, rainfall, and any other factor affecting the likelihood or frequency of discharge of animal wastes and process wastewaters into a navigable water; and
5. Any other relevant factor.

C. The Director shall conduct an onsite inspection of the animal feeding operation before the making a designation under subsection (B).
D. The Director shall not designate an animal feeding operation having less than the number of animals established in R18-9-A901(19)(a) as a CAFO unless a pollutant is discharged:
1. Into a navigable water through a manmade ditch, flushing system, or other similar manmade device; or
2. Directly into a navigable water that originates outside of and passes over, across, or through the animal feeding operation or otherwise comes into direct contact with the animals confined in the operation.

E. If the Director makes a designation under subsection (B), the Director shall notify the owner or operator of the operation, in writing, of the designation.

Historical Note
New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-D902. AZPDES Permit Coverage Requirements

A. Any person who owns or operates a CAFO, except as provided in subsections (B) and (C), shall submit an application for an individual permit under R18-9-B901(B) or seek coverage under a general permit under R18-9-C901(B) within the applicable deadline specified in R18-9-D904(A).
B. If a person who owns or operates a large CAFO receives a no potential to discharge determination under R18-9-D903, coverage under an AZPDES permit described in this Part is not required.
C. The discharge of manure, litter, or process wastewater to a navigable water from a CAFO as a result of the application of manure, litter, or process wastewater by the CAFO to land areas under its control is subject to AZPDES permit requirements, except where it is an agricultural stormwater discharge as provided in section 502(14) of the Clean Water Act (33 U.S.C. 1362(14)). For purposes of this Section, an "agricultural stormwater discharge" means a precipitation-related discharge of manure, litter, or process wastewater from land areas under the control of a CAFO when the person who owns or operates the CAFO has applied the manure, litter, or process wastewater according to site-specific nutrient management practices to ensure appropriate agricultural use of the nutrients in the manure, litter, or process wastewater, as specified under 40 CFR 122.42(e)(1)(vi) through (ix).

Historical Note
New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-D903. No Potential To Discharge Determinations for Large CAFOs

A. For purposes of this Section, "no potential to discharge" means that there is no potential for any CAFO manure, litter, or process wastewater to enter into a navigable water under any circumstance or climatic condition.
B. Any person who owns or operates a large CAFO and has not had a discharge within the previous five years may request a no potential to discharge determination by submitting to the Department:

1. The information specified in 40 CFR 122.21(f) and 40 CFR 122.21(i)(1)(i) through (ix) on a form obtained from the Department, by the applicable date specified in R18-9-D904(A); and
2. Any additional information requested by the Director to supplement the request or requested through an onsite inspection of the CAFO.

C. Process for making a no potential to discharge determination.
1. Upon receiving a request under subsection (B), the Director shall consider:
   a. The potential for discharges from both the production area and any land application area, and
   b. Any record of prior discharges by the CAFO.
2. The Director shall issue a public notice that includes:
   a. A statement that a no potential to discharge request has been received;
   b. A fact sheet, when applicable;
   c. A brief description of the type of facility or activity that is the subject of the no potential to discharge determination;
   d. A brief summary of the factual basis, upon which the request is based, for granting the no potential to discharge determination; and
   e. A description of the procedures for reaching a final decision on the no potential to discharge determination.
3. The Director shall base the decision to grant a no potential to discharge determination on the administrative record, which includes all information submitted in support of a no potential to discharge determination and any other supporting data gathered by the Director.
4. The Director shall notify the owner or operator of the large CAFO of the final determination within 90 days of receiving the request.

D. If the Director determines that the operation has the potential to discharge, the person who owns or operates the CAFO shall seek coverage under an AZPDES permit within 30 days after the determination of potential to discharge.

E. A no potential to discharge determination does not relieve the CAFO from the consequences of a discharge. An unpermitted CAFO discharging a pollutant into a navigable water is in violation of the Clean Water Act even if the Director issues a no potential to discharge determination for the facility. If the Director issues a determination of no potential to discharge to a CAFO facility but the owner or operator anticipates a change in circumstances that could create the potential for a discharge, the owner or operator shall contact the Director and apply for and obtain permit authorization before the change of circumstances.

F. When the Director issues a determination of no potential to discharge, the Director retains the authority to subsequently require AZPDES permit coverage if:
1. Circumstances at the facility change;
2. New information becomes available; or
3. The Director determines, through other means, that the CAFO has a potential to discharge.

Historical Note

New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-D904. AZPDES Permit Coverage Deadlines

A. Any person who owns or operates a CAFO shall apply for or seek coverage under an AZPDES permit and shall comply with all applicable AZPDES requirements, including the duty to maintain permit coverage under subsection (C).
1. Permit coverage deadline for an animal feeding operation operating before April 14, 2003.
   a. An owner or operator of an animal feeding operation that operated before April 14, 2003 and was defined as a CAFO before February 2, 2004 shall apply for or seek permit coverage or maintain permit coverage and comply with the conditions of the applicable AZPDES permit;
   b. An owner or operator of an animal feeding operation that operated before April 14, 2003 and was not defined as a CAFO until February 2, 2004 shall apply for or seek permit coverage by a date specified by the Director, but no later than February 13, 2006;
   c. An owner or operator of an animal feeding operation that operated before April 14, 2003 who changes the operation on or after February 2, 2004, resulting in the operation being defined as a CAFO, shall apply for or seek permit coverage as soon as possible, but no later than 90 days after the operational change. If the operational change will not make the operation a CAFO as defined before February 2, 2004, the owner or operator may take until April 13, 2006 or 90 days after the operation is defined as a CAFO, whichever is later, to apply for or seek permit coverage;
   d. An owner or operator of an animal feeding operation that operated before April 14, 2003 who constructs additional facilities on or after February 2, 2004, resulting in the operation being defined as a CAFO that is a new source, shall apply for or seek permit coverage at least 180 days before the new source portion of the CAFO commences operation. If the calculated 180-day deadline occurs before February 2, 2004 and the operation is not subject to this Article before February 2, 2004, the owner or operator shall apply for or seek permit coverage no later than March 3, 2004.
2. Permit coverage deadline for an animal feeding operation operating on or after April 14, 2003. An owner or operator who started construction of a CAFO on or after April 14, 2003, including a CAFO subject to the effluent limitations guidelines in 40 CFR 412, shall apply for or seek permit coverage at least 180 days before the CAFO commences operation. If the calculated 180-day deadline occurs before February 2, 2004 and the operation is not subject to this Article before February 2, 2004, the owner or operator shall apply for or seek permit coverage no later than March 3, 2004.
3. Permit coverage deadline for a designated CAFO. Any person who owns or operates a CAFO designated under R18-9-D901(B) shall apply for or seek permit coverage no later than 90 days after receiving a designation notice.

B. Unless specified under R18-9-D903(E) and (F), the Director shall not require permit coverage for a CAFO that the Director determines under R18-9-D903 to have no potential to discharge. If circumstances change at a CAFO that has a no potential to discharge determination and the CAFO now has a potential to discharge, the person who owns or operates the CAFO shall notify the Director within 30 days after the change in circumstances and apply for or seek coverage under an AZPDES permit.

C. Duty to maintain permit coverage.
1. The permittee shall:
   a. If covered by an individual AZPDES permit, submit an application to renew the permit no later than 180

days before the expiration of the permit under R18-9-B904(B); or
b. If covered by a general AZPDES permit, comply with R18-9-C903(B).
2. Continued permit coverage or reapplication for a permit is not required if:
a. The facility ceases operation or is no longer a CAFO; and
b. The permittee demonstrates to the Director that there is no potential for a discharge of remaining manure, litter, or associated process wastewater (other than agricultural stormwater from land application areas) that was generated while the operation was a CAFO.

Historical Note
New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

R18-9-D905. Closure Requirements

A. Closure.
1. A person who owns or operates a CAFO shall notify the Department of the person's intent to cease operations without resuming an activity for which the facility was designed or operated.
2. A person who owns or operates a CAFO shall submit a closure plan to the Department for approval 90 days before ceasing operation. The closure plan shall describe:
a. For operations that met the "no potential to discharge" under R18-9-D903, facility-related information based on the Notice of Termination form for the applicable general permit;
b. The approximate quantity of manure, process wastewater, and other materials and contaminants to be removed from the facility;
c. The destination of the materials to be removed from the facility and documentation that the destination is approved to accept the materials;
d. The method to treat any material remaining at the facility;
e. The method to control the discharge of pollutants from the facility;
f. Any limitations on future land or water use created as a result of the facility's operations or closure activities;
g. A schedule for implementing the closure plan; and
h. Any other relevant information the Department determines necessary.

B. The owner or operator shall provide the Department with written notice that a closure plan has been fully implemented within 30 calendar days of completion and before redevelopment.

Historical Note
New Section made by final rulemaking at 9 A.A.R. 5564, effective February 2, 2004 (Supp. 03-4).

ARTICLE 10. ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM - DISPOSAL, USE, AND TRANSPORTATION OF BIOSOLIDS

R18-9-1001. Definitions

In addition to the definitions in A.R.S. § 49-255 and R18-9-A901, the following terms apply to this Article:
1. "Aerobic digestion" means the biochemical decomposition of organic matter in biosolids into carbon dioxide and water by microorganisms in the presence of air.
2. "Agronomic rate" means the whole biosolids application rate on a dry-weight basis that meets the following conditions:
a. The amount of nitrogen needed by existing vegetation or a planned or actual crop has been provided, and
b. The amount of nitrogen that passes below the root zone of the crop or vegetation is minimized.
3. "Anaerobic digestion" means the biochemical decomposition of organic matter in biosolids into methane gas and carbon dioxide by microorganisms in the absence of air.
4. "Annual biosolids application rate" means the maximum amount of biosolids (dry-weight basis) that can be applied to an acre or hectare of land during a 365-day period.
5. "Annual pollutant loading rate" means the maximum amount of a pollutant that can be applied to an acre or hectare of land during a 365-day period.
6. "Applicator" means a person who arranges for and controls the site-specific land application of biosolids in Arizona.
7. "Biosolids" means sewage sludge, including exceptional quality biosolids, that is placed on, or applied to the land to use the beneficial properties of the material as a soil amendment, conditioner, or fertilizer. Biosolids do not include any of the following:
a. Sludge determined to be hazardous under A.R.S. Title 49, Chapter 5, Article 2 and 40 CFR 261;
b. Sludge with a concentration of polychlorinated biphenyls (PCBs) equal to or greater than 50 milligrams per kilogram of total solids (dry-weight basis);
c. Grit (for example, sand, gravel, cinders, or other materials with a high specific gravity) or screenings generated during preliminary treatment of domestic sewage by a treatment works;
d. Sludge generated during the treatment of either surface water or groundwater used for drinking water;
e. Sludge generated at an industrial facility during the treatment of industrial wastewater, including industrial wastewater combined with domestic sewage;
f. Commercial septage, industrial septage, or domestic septage combined with commercial or industrial septage; or
g. Special wastes as defined and controlled under A.R.S. Title 49, Chapter 4, Article 9.
8. "Bulk biosolids" means biosolids that are transported and land-applied in a manner other than in a bag or other container holding biosolids of 1.102 short tons or 1 metric ton or less.
9. "Class I sludge management facility" means any POTW identified under 40 CFR 403.8(a) as being required to have an approved pretreatment program (including a POTW for which the Department assumes local program responsibilities under 40 CFR 403.10(e)) and any other treatment works treating domestic sewage classified as a Class I sludge management facility by the regional administrator in conjunction with the Director or by the Director because of the potential for its sludge use or disposal practices to adversely affect public health or the environment.
10. *"Clean water act" means the federal water pollution control act amendments of 1972, as amended (P.L. 92-500; 86 Stat. 816; 33 United States Code sections 1251 through 1376).* A.R.S. 49-201(6).

11. "Coarse fragments" means rock particles in the gravel-size range or larger.
12. "Coarse or medium sands" means a soil mixture of which more than 50% of the sand fraction is retained on a No. 40 (0.425 mm) sieve.
13. "Cumulative pollutant loading rate" means the maximum amount of a pollutant applied to a land application site.
14. "Domestic septage" means the liquid or solid material removed from a septic tank, cesspool, portable toilet, marine sanitation device, or similar system or device that receives only domestic sewage. Domestic septage does not include commercial or industrial wastewater or restaurant grease-trap wastes.
15. "Domestic sewage" means waste or wastewater from humans or household operations that is discharged to a publicly or privately owned treatment works. Domestic sewage also includes commercial and industrial wastewaters that are discharged into a publicly-owned or privately-owned treatment works if the industrial or commercial wastewater combines with human excreta and other household and nonindustrial wastewaters before treatment.
16. "Dry-weight basis" means the weight of biosolids calculated after the material has been dried at 105° C until reaching a constant mass.
17. "Exceptional quality biosolids" means biosolids certified under R18-9-1013(A)(6) as meeting the pollutant concentrations in R18-9-1005 Table 2, Class A pathogen reduction in R18-9-1006, and one of the vector attraction reduction requirements in subsections R18-9-1010(A)(1) through R18-9-1010(A)(8).
18. "Feed crops" means crops produced for animal consumption.
19. "Fiber crops" means crops grown for their physical characteristics. Fiber crops, including flax and cotton, are not produced for human or animal consumption.
20. "Food crops" means crops produced for human consumption.
21. "Gravel" means soil predominantly composed of rock particles that will pass through a 3-inch (75 mm) sieve and be retained on a No. 4 (4.75 mm) sieve.
22. "Industrial wastewater" means wastewater that is generated in a commercial or industrial process.
23. "Land application," "apply biosolids," or "biosolids applied to the land" means spraying or spreading biosolids on the surface of the land, injecting biosolids below the land's surface, or incorporating biosolids into the soil to amend, condition, or fertilize the soil.
24. "Monthly average" means the arithmetic mean of all measurements taken during a calendar month.
25. "Municipality" means a city, town, county, district, association, or other public body, including an intergovernmental agency of two or more of the foregoing entities created by or under state law. The term includes special districts such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity that has as one of its principal responsibilities, the treatment, transport, use, or disposal of biosolids.
26. *"Navigable waters" means the waters of the United States as defined by section 502(7) of the clean water act (33 United States Code section 1362(7)).* A.R.S. § 49-201(21).
27. "Other container" means a bucket, bin, box, carton, trailer, pickup truck bed, or a tanker vehicle or an open or closed receptacle with a load capacity of 1.102 short tons or one metric ton or less.
28. "Pathogen" means a disease-causing organism.
29. *"Person" means an individual, employee, officer, managing body, trust, firm, joint stock company, consortium, public or private corporation, including a government corporation, partnership, association or state, a political subdivision of this state, a commission, the United States government or a federal facility, interstate body or other entity.* A.R.S. § 49-201(26).
30. "Person who prepares biosolids" means a person who generates biosolids during the treatment of domestic sewage in a treatment works, packages biosolids, or derives a new product from biosolids either through processing or by combining it with another material, including blending several biosolids together.
31. "pH" means the logarithm of the reciprocal of the hydrogen ion concentration.
32. "Pollutant" means an organic substance, an inorganic substance, a combination of organic and inorganic substances, or a pathogenic organism that, after release into the environment and upon exposure, ingestion, inhalation, or assimilation into an organism, either directly from the environment or indirectly by ingestion through the food chain, could cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformities in either organisms or reproduced offspring.
33. "Pollutant limit" means:
    a. A numerical value that describes the quantity of a pollutant allowed in a unit of biosolids such as milligrams per kilogram of total solids,
    b. The quantity of a pollutant that can be applied to a unit area of land such as kilograms per hectare, or
    c. The volume of biosolids that can be applied to a unit area of land such as gallons per acre.
34. "Privately owned treatment works" means a device or system owned by a non-governmental entity used to treat, recycle, or reclaim, either domestic sewage or a combination of domestic sewage and industrial waste that is generated off-site.
35. "Public contact site" means a park, sports field, cemetery, golf course, plant nursery, or other land with a high potential for public exposure to biosolids.
36. "Reclamation" means the use of biosolids to restore or repair construction sites, active or closed mining sites, landfill caps, or other drastically disturbed land.
37. "Responsible official" means a principal corporate officer, general partner, proprietor, or, in the case of a municipality, a principal executive official or any duly authorized agent.
38. "Runoff" means rainwater, leachate, or other liquid that drains over any part of a land surface and runs off of the land surface.
39. "Sand" means soil that contains more than 85% grains in the size range that will pass through a No. 4 (4.75 mm) sieve and be retained on a No. 200 (0.075 mm) sieve.
40. *"Sewage sludge":*
    (a) Means solid, semisolid or liquid residue that is generated during the treatment of domestic sewage in a treatment works.
    (b) Includes domestic septage, scum or solids that are removed in primary, secondary or advanced wastewater treatment processes, and any material derived from sewage sludge.
    (c) Does not include ash that is generated during the firing of sewage sludge in a sewage sludge incinera-

tor or grit and screenings that are generated during preliminary treatment of domestic sewage in a treatment works. A.R.S. § 49-255(6)

41. "Sewage sludge unit" means land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include navigable waters.
42. "Specific oxygen uptake rate (SOUR)" means the mass of oxygen consumed per unit time per unit mass of total solids (dry-weight basis) in biosolids.
43. "Store biosolids" or "storage of biosolids" means the temporary holding or placement of biosolids on land before land application.
44. "Surface disposal site" means an area of land that contains one or more active sewage sludge units.
45. "Ton" means a net weight of 2000 pounds and is known as a short ton.
46. "Total solids" means the biosolids material that remains when sewage sludge is dried at 103° C to 105° C.
47. "Treatment of biosolids" means the thickening, stabilization, dewatering, and other preparation of biosolids for land application. Storage is not a treatment of biosolids.
48. "Unstabilized solids" means the organic matter in biosolids that has not been treated or reduced through an aerobic or anaerobic process.
49. "Vectors" means rodents, flies, mosquitoes, or other organisms capable of transporting pathogens.
50. "Volatile solids" means the amount of total solids lost when biosolids are combusted at 550° C in the presence of excess air.
51. "Wetlands" means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration to support, and do under normal circumstances support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, cienegas, tinajas, and similar areas.

Historical Note

New Section recodified from R18-13-1502 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1002. Applicability and Prohibitions

A. This Article applies to:
1. Any person who:
   a. Prepares biosolids for land application or disposal in a sewage sludge unit,
   b. Transports biosolids for land application or disposal in a sewage sludge unit,
   c. Applies biosolids to the land,
   d. Owns or operates a sewage sludge unit, or
   e. Owns or leases land to which biosolids are applied,
2. Biosolids applied to the land or placed on a surface disposal site,
3. Land where biosolids are applied, and
4. A surface disposal site.

B. The land application of biosolids in a manner consistent with this Article is exempt from the requirements of the aquifer protection program established under A.R.S. Title 49, Chapter 2, Article 3 and 18 A.A.C. 9, Articles 1, 2, and 3.

C. Except as provided in subsection (D), the land application of biosolids in a manner that is not consistent with Articles 9 and 10 of this Chapter is prohibited.

D. The Department may permit the land application of biosolids in a manner that differs from the requirements in R18-9-1007 and R18-9-1008 if the land application is permitted under the aquifer protection permit program established under A.R.S. Title 49, Chapter 2, Article 3, and 18 A.A.C. 9, Articles 1, 2, and 3.

E. Surface disposal site.
1. Any person who prepares biosolids that are placed in a sewage sludge unit, or places biosolids in a sewage sludge unit, or who owns or operates a biosolids surface disposal site shall comply with 40 CFR 503, Subpart C, which is incorporated by reference in R18-9-A905(A)(9), and
   a. The pathogen reduction requirements in R18-9-1006, and
   b. The vector attraction reduction requirements in R18-9-1010.
2. In addition to the requirements under subsection (E)(1), any person who owns or operates a biosolids surface disposal site shall apply for, and obtain, a permit under 18 A.A.C. 9, Articles 1 and 2.

F. A person shall not apply bulk biosolids to the land or place bulk biosolids in a surface disposal site if the biosolids are likely to adversely affect a threatened or endangered species as listed under section 4 of the Endangered Species Act (16 U.S.C. 1533), or its designated critical habitat as defined in 16 U.S.C. 1532.

G. The incineration of biosolids is prohibited.

Historical Note

New Section recodified from R18-13-1501 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1003. General Requirements

A. A person shall not use or transport biosolids, apply biosolids to land, or place biosolids on a surface disposal site in Arizona, except as established in this Article.

B. The management practices in R18-9-1007 and R18-9-1008 do not apply if biosolids are exceptional quality biosolids.

C. The applicator shall obtain, submit to the Department, and maintain the information required to comply with the requirements of this Article.

D. The applicator shall not receive bulk biosolids without prior written confirmation of the filing of a "Request for Registration" under R18-9-1004.

E. The land owner or lessee of land on which bulk biosolids, that are not exceptional quality biosolids, have been applied shall notify any subsequent land owner and lessee of all previous land applications of biosolids and shall disclose any site restrictions listed in R18-9-1009 that are in effect at the time the property is transferred.

F. A person who prepares biosolids shall ensure that the applicable requirements in this Article are met when the biosolids are applied to the land or placed on a surface disposal site.

G. If necessary to protect public health and the environment from any adverse effect of a pollutant in the biosolids, the Department may impose, on a case-by-case basis, requirements for the use or disposal of biosolids, including exceptional quality biosolids, in addition to, or more stringent than, the requirements in this Article. The Department shall notify the preparer, applier, or land owner of these requirements by letter and include the justification for the requirements and the length of time or applicability for the requirements.

Historical Note
New Section recodified from R18-13-1503 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1004. Applicator Registration, Bulk Biosolids

A. Any person intending to land-apply bulk biosolids in Arizona shall submit, on a form provided by the Department, a completed "Request for Registration."

B. An applicator shall not engage in land application of bulk biosolids, unless the applicator has obtained a prior written acknowledgment of the Request for Registration or a supplemental request from the Department.

C. The Request for Registration for all biosolids, except exceptional quality biosolids, shall include:
1. The name, address, and telephone number of the applicator and any agent of the applicator;
2. The name and telephone number of a primary contact person who has specific knowledge of the land application activities of the applicator;
3. Whether the applicator holds a NPDES or AZPDES permit, and, if so, the permit number;
4. The identity of the person, if different from the applicator, including the NPDES or AZPDES permit number, who will prepare the biosolids for land application; and
5. The following information, unless the information is already on file at the Department as part of an approved land application plan, for each site on which application is anticipated to take place:
   a. The name, mailing address, and telephone number of the land owner and lessee, if any;
   b. The physical location of the site by county;
   c. The legal description of the site, including township, range, and section, or latitude and longitude at the center of each site;
   d. The number of acres or hectares at each site to be used;
   e. Except for sites described in R18-9-1005(D)(2)(c), background concentrations of the pollutants listed in Table 4 of R18-9-1005 from representative soil samples;
   f. The location of any portion of the site having a slope greater than 6%; and
   g. Public notice. Proof of placement of a public notice announcing the potential use of the site for the application of biosolids when a site has not previously received biosolids, or when a site has not been used for land application for at least three consecutive years.
      i. The notice shall appear at least once each week for at least two consecutive weeks in the largest newspaper in general circulation in the area in which the site is located.
      ii. If a site is not used for land application for at least three consecutive years, the applicator shall renotice the site following the process described in subsection (C)(5)(g)(i) before its reuse.

D. The Request for Registration for exceptional quality biosolids shall include the information in subsections (C)(1) through (C)(4).

E. A responsible official of the applicator shall sign the Request for Registration.

F. The Department shall mail a written acknowledgment of a Request for Registration or supplemental request, within 15 business days of receipt of the request.

G. An applicator wishing to use a site that has not been identified in a Request for Registration shall file a supplemental request with the Department before using the new site. Public notice requirements under R18-9-1004(C)(5)(g) apply.

Historical Note
New Section recodified from R18-13-1504 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1005. Pollutant Concentrations

A. A person shall not apply biosolids with pollutant concentrations that exceed any of the ceiling concentrations established in Table 1.

B. A person shall not apply biosolids sold or given away in a bag or other container that are not exceptional quality biosolids to a site if any annual pollutant loading rate in Table 3 will be exceeded. A person shall determine annual application rates using the methodology established in Appendix A.

C. A person shall not apply bulk biosolids to a lawn or garden unless the biosolids are exceptional quality biosolids.

D. Unless using exceptional quality biosolids, a person shall not apply bulk biosolids to a site when:
1. The pollutant concentrations exceed the levels in Table 2, or
2. Any cumulative pollutant loading rate in Table 4 will be exceeded. A person shall determine compliance with the site cumulative pollutant loading rates using the following:
   a. By identifying all known biosolids application events and information relevant to a site since September 13, 1979.
   b. By calculating the existing cumulative level of the pollutants established in Table 4 using actual analytical data from the application events or if actual analytical data from application events before April 1996 are not available, background concentrations determined by taking representative soil samples of the site, if it is known that the site received biosolids before April 1996.
   c. Background soil tests are not required for those sites that have not received biosolids before April 23, 1996.

Table 1. Ceiling Concentrations

Pollutant	Ceiling concentrations (milligrams per kilogram) (1)
Arsenic	75.0
Cadmium	85.0
Chromium	3000.0
Copper	4300.0
Lead	840.0
Mercury	57.0
Molybdenum	75.0
Nickel	420.0
Selenium	100.0
Zinc	7500.0

(1) Dry-weight basis.

Table 2. Monthly Average Pollutant Concentrations

Pollutant	Concentration limits (milligrams per kilogram) (1)
Arsenic	41.0
Cadmium	39.0
Copper	1500.0
Lead	300.0
Mercury	17.0
Nickel	420.0
Selenium	100.0
Zinc	2800.0

(1) Dry-weight basis.

Table 3. Annual Pollutant Loading Rates

Pollutant	Annual pollutant loading rates (in kilograms per hectare)
Arsenic	2.0
Cadmium	1.9
Copper	75.0
Lead	15.0
Mercury	0.85
Nickel	21.0
Selenium	5.0
Zinc	140.0

Table 4. Cumulative Pollutant Loading Rates

Pollutant	Cumulative pollutant loading rates (in kilograms per hectare)
Arsenic	41.0
Cadmium	39.0
Copper	1500.0
Lead	300.0
Mercury	17.0
Nickel	420.0
Selenium	100.0
Zinc	2800.0

Historical Note
New Section recodified from R18-13-1505 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1006. Class A and Class B Pathogen Reduction Requirements

A. An applicator shall ensure that all biosolids applied to land meet Class A or Class B pathogen reduction requirements at the time the biosolids are:
1. Placed on an active sewage sludge unit unless the biosolids are covered with soil or other material at the end of each operating day, or
2. Land applied.

B. Biosolids that are sold or given away in a bag or other container for land application, or that are applied on a lawn or home garden, shall meet the Class A pathogen reduction requirements established in subsection (D).

C. Land on which biosolids with Class B pathogen reduction requirements are applied is subject to the use restrictions established in R18-9-1009.

D. Biosolids satisfy the Class A pathogen reduction requirements when the density of fecal coliform is less than 1000 Most Probable Number per gram of total solids (dry-weight basis), or the density of *Salmonella sp.* bacteria is less than three Most Probable Number per four grams of total solids (dry-weight basis), and any one of the following alternative pathogen treatment options is used:
1. Alternative 1. The pathogen treatment process meets one of the following time and temperature requirements:
   a. When the percent solids of the biosolids are seven percent or greater, the temperature of the biosolids shall be held at 50° C or higher for at least 20 minutes. The temperature and time period is determined using the equation in subsection (D)(1)(b), except when small particles of the biosolids are heated by either warmed gases or an immiscible liquid;
   b. When the percent solids of the biosolids are seven percent or greater, and small particles of the biosolids are heated by either warmed gases or an immiscible liquid, a temperature of 50° C or higher shall be held for 15 seconds or longer. The temperature and time period is determined using the following equation:

$$D = \frac{131,700,000}{10^{[0.1400t]}}$$

D = time in days, and
t = temperature in degrees Celsius;

   c. When the percent solids of the biosolids are less than seven percent, the temperature of the biosolids is 50° C or higher and the time period is 30 minutes or longer. The temperature and time period shall be determined using the following equation:

$$D = \frac{50,070,000}{10^{[0.1400t]}}$$

D = time in days, and
t = temperature in degrees Celsius; or

   d. When the percent solids of the biosolids are less than seven percent, and the time of heating is at least 15 seconds, but less than 30 minutes, the time and temperature is determined using the following equation:

$$D = \frac{131,700,000}{10^{[0.1400t]}}$$

D = time in days, and
t = temperature in degrees Celsius.

2. Alternative 2. The pathogen treatment process meets all the following parameters:
   a. The pH of the quantity of biosolids treated is raised to 12 or higher and held at least 72 hours;
   b. During the period that the pH is above 12, the temperature of the biosolids is held above 52° C for at least 12 hours; and

c. At the end of the 72-hour period during which the pH is above 12, the biosolids are air dried to achieve a percent solids in the biosolids greater than 50%.

3. Alternative 3. The following conditions are met:
   a. The biosolids, before pathogen treatment and until the next monitoring event, have an enteric virus density less than one plaque-forming unit for four grams of total solids (dry-weight basis);
   b. The biosolids, before pathogen treatment and until the next monitoring event, have a viable helminth ova density less than one for four grams of total solids (dry-weight basis); and
   c. Once the density requirements in subsections (D)(3)(a) and (D)(3)(b) are consistently met after pathogen treatment and the values and ranges of the pathogen treatment process used are documented, the biosolids continue to be Class A with respect to enteric viruses and viable helminth ova when the values for the pathogen treatment process operating parameters are consistent with the previously documented values or ranges of values.
4. Alternative 4. The following requirements are met at the time the biosolids are used or disposed or at the time the biosolids are prepared for sale or given away in a bag or other container for application to the land:
   a. The biosolids have an enteric virus density less than one plaque-forming unit for four grams of total solids (dry-weight basis), and
   b. The biosolids have a viable helminth ova density less than one for four grams of total solids (dry-weight basis).
5. Alternative 5. Composting.
   a. Use either the within-vessel or the static-aerated-pile composting method, maintaining the temperature of the biosolids at 55° C or higher for three days; or
   b. Use the windrow composting method, maintaining the temperature of the biosolids at 55° C or higher for at least 15 days. The windrow shall be turned at least five times when the compost is maintained at 55° C or higher.
6. Alternative 6. Heat drying. The biosolids are dried by direct or indirect contact with hot gases to reduce the moisture content to 10% or lower by weight. During the process:
   a. The temperature of the sewage sludge particles shall exceed 80° C, or
   b. The wet bulb temperature of the gas as the biosolids leave the dryer shall exceed 80° C.
7. Alternative 7. Heat treatment. The quantity of liquid biosolids treated are heated to a temperature of 180° C or higher for at least 30 minutes.
8. Alternative 8. Thermophilic aerobic digestion. Liquid biosolids are agitated with air or oxygen to maintain aerobic conditions and the mean cell residence time of the biosolids is 10 days at 55 ° to 60° C.
9. Alternative 9. Beta ray irradiation. Biosolids are irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (approximately 20° C).
10. Alternative 10. Gamma ray irradiation. Biosolids are irradiated with gamma rays from certain isotopes, such as ^{60}Cobalt and ^{137}Cesium at dosages of at least 1.0 megarad at room temperature (approximately 20° C).
11. Alternative 11. Pasteurization. The temperature of the biosolids is maintained at 70° C or higher for at least 30 minutes.
12. Alternative 12. The Director shall approve another process if the process is equivalent to a Process to Further Reduce Pathogens specified in subsections (D)(5) through (D)(11), as determined by the EPA Pathogen Equivalency Committee.

E. Biosolids satisfy the Class B pathogen reduction requirements when the biosolids meet any one of the following options:
1. Alternative 1. The geometric mean of the density of fecal coliform in seven representative samples is less than either 2,000,000 Most Probable Number per gram of total solids (dry-weight basis), or 2,000,000 colony forming units per gram of total solids (dry-weight basis);
2. Alternative 2. Air drying. The biosolids are dried on sand beds or paved or unpaved basins for at least three months. During at least two of the three months, the ambient average daily temperature is above 0° C;
3. Alternative 3. Lime stabilization. Sufficient lime is added to the biosolids to raise the pH of the biosolids to 12 after at least two hours of contact;
4. Alternative 4. Aerobic digestion. The biosolids are agitated with air or oxygen to maintain aerobic conditions for a specific mean cell residence time at a specific temperature between 40 days at 20° C and 60 days at 15° C;
5. Alternative 5. Anaerobic digestion. The biosolids are treated in the absence of air for a specific mean cell residence time at a specific temperature between 15 days at 35° C to 55° C and 60 days at 20° C;
6. Alternative 6. Composting. Using the within-vessel, static-aerated-pile or windrow composting methods, the temperature of the biosolids is raised to 40° C or higher for five consecutive days. For at least four hours during the five days, the temperature in the compost pile exceeds 55° C; or
7. Alternative 7. The Director shall approve another process if it is equivalent to a Process to Significantly Reduce Pathogens specified in subsections (E)(2) through (E)(6), as determined by the EPA Pathogen Equivalency Committee.

Historical Note

New Section recodified from R18-13-1506 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1007. Management Practices and General Requirements

A. An applicator of bulk biosolids that are not exceptional quality biosolids shall comply with the following management practices at each land application site, except a site where bulk biosolids are applied for reclamation. The applicator shall not:
1. Apply bulk biosolids to soil with a pH less than 6.5 at the time of the application, unless the biosolids are treated under one of the procedures in subsections R18-9-1006(D)(2), R18-9-1006(E)(3), or R18-9-1010(A)(6), or the soil and biosolids mixture has a pH of 6.5 or higher immediately after land application;
2. Apply bulk biosolids to land with slopes greater than 6%, unless the site is operating under an AZPDES permit or a permit issued under section 402 of the Clean Water Act (33 U.S.C. 1342);
3. Apply bulk biosolids to land under the following conditions:
   a. Bulk biosolids with Class A pathogen reduction. If the depth to groundwater is five feet (1.52 meters) or less;

b. Bulk biosolids with Class B pathogen reduction.
   i. If the depth to groundwater is 10 feet (3.04 meters) or less; or
   ii. To gravel, coarse or medium sands, or sands with less than 15% coarse fragments, if the depth to groundwater is 40 feet (12.2 meters) or less from the point of application of biosolids;

4. Apply bulk biosolids to land that is 32.8 feet (10 meters) or less from navigable waters;
5. Store or apply bulk biosolids closer than 1000 feet (305 meters) from a public or semi-public drinking water supply well or no closer than 250 feet (76.2 meters) from any other water well;
6. Store or apply bulk biosolids within 25 feet (7.62 meters) of a public right-of-way or private property line unless the applicator receives permission to apply bulk biosolids from the land owner or lessee of the adjoining property;
7. Apply bulk biosolids at an application rate greater than the agronomic rate of the vegetation or crop grown on the site;
8. Apply domestic septage or any other bulk biosolids with less than 10% solids at a rate that exceeds the annual application rate, calculated in gallons per acre for a 365-day period by dividing the amount of nitrogen needed by the crop or vegetation grown on the land, in pounds per acre per 365-day period, by 0.0026;
9. Apply bulk biosolids to land that is flooded, frozen, or snow-covered, so that the bulk biosolids enter a wetland or other navigable waters, except as provided in an AZPDES permit or a permit issued under section 402 of the Clean Water Act (33 U.S.C. 1342);
10. Apply any additional bulk biosolids before a crop is grown on the site if the site has received biosolids containing nitrogen at the equivalent of the agronomic rate appropriate for that crop;
11. Exceed the irrigation needs of the crop of an application site;
12. To minimize odors, apply bulk biosolids within 1000 feet (305 meters) of a dwelling unless the biosolids are injected or incorporated into the soil within 10 hours of being applied; or
13. Store bulk biosolids within 1000 feet (305 meters) of a dwelling unless the applicator obtains permission from the dwelling owner or lessee to store the biosolids at a shorter distance from the dwelling. If the dwelling owner or lessee changes, the applicator shall obtain permission from the new dwelling owner or lessee to continue to store the bulk biosolids within 1000 feet of the dwelling or move the biosolids to a location at least 1000 feet from the dwelling.

B. If biosolids are placed in a bag or other container, the person who prepares the biosolids shall distribute a label or information sheet to the person receiving the material. This label or information sheet shall, at a minimum, contain the following information:

1. The identity and address of the person who prepared the biosolids;
2. Instructions on the proper use of the material, including agronomic rates and an annual application rate that ensures that the annual pollutant rates established in R18-9-1005 are not exceeded; and
3. A statement that application of biosolids to the land shall not exceed application rates described in the instructions on the label or information sheet.

Historical Note
New Section recodified from R18-13-1507 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1008. Management Practices, Application of Biosolids to Reclamation Sites

A. An applicator of bulk biosolids that are not exceptional quality biosolids shall comply with the following management practices at each land application site where the bulk biosolids are applied for reclamation. The applicator shall not:

1. Apply bulk biosolids unless the soil and biosolids mixture has a pH of 5.0 or higher immediately after land application;
2. Apply bulk biosolids to land with slopes greater than 6% unless:
   a. The site is operating under an AZPDES permit or a permit issued under section 402 (33 U.S.C. 1342) or 404 (33 U.S.C. 1344) of the Clean Water Act;
   b. The site is reclaimed as specified under A.R.S. Title 27, Chapter 5, and controls are in place to prevent runoff from leaving the application area; or
   c. Runoff from the site does not reach navigable waters;
3. Apply bulk biosolids to land under the following conditions:
   a. Bulk biosolids with Class A pathogen reduction. To land if the depth to groundwater is 5 feet (1.52 meters) or less;
   b. Bulk biosolids with Class B pathogen reduction.
      i. To land if the depth to groundwater is 10 feet (3.04 meters) or less; and
      ii. To gravel, coarse or medium sands, or sands with less than 15% coarse fragments if the depth to groundwater is 40 feet (12.2 meters) or less from the point of application of biosolids;
4. Apply bulk biosolids to land that is 32.8 feet (10 meters) or less from navigable waters;
5. Store or apply bulk biosolids closer than 1000 feet (305 meters) from a public or semi-public drinking water supply well, unless the applicator justifies and the Department approves a shorter distance, or apply bulk biosolids closer than 250 feet (76.2 meters) from any other water well;
6. Store or apply bulk biosolids within 1000 feet (305 meters) of a public right-of-way or private property line unless the applicator receives permission to apply bulk biosolids from the land owner or lessee of the adjoining property;
7. Exceed a total of 150 dry tons per acre to any portion of a reclamation site if bulk biosolids are applied;
8. Apply bulk biosolids with less than 10% solids;
9. Apply bulk biosolids to land that is flooded, frozen, or snow-covered so that the bulk biosolids enter a wetland or other navigable waters, except as provided in an AZPDES permit or a permit issued under section 402 (33 U.S.C. 1342) or 404 (33 U.S.C. 1344) of the Clean Water Act;
10. Apply more water than necessary to control dust and establish vegetation; and
11. Apply bulk biosolids within 1000 feet (305 meters) of a dwelling unless the biosolids are injected or incorporated into the soil within 10 hours of being applied.
12. Store bulk biosolids within 1000 feet (305 meters) of a dwelling unless the applicator obtains permission from the dwelling owner or lessee to store the biosolids at a shorter distance from the dwelling. If the dwelling owner

or lessee changes, the applicator shall obtain permission from the new dwelling owner or lessee to continue to store the bulk biosolids within 1000 feet of the dwelling or move the biosolids to a location at least 1000 feet from the dwelling.

B. The requirements of R18-9-1007(B) apply if biosolids placed in a bag or other container are used to reclaim a site.

Historical Note
New Section recodified from R18-13-1508 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1008 renumbered to R18-9-1009; new Section R18-9-1008 made by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1009. Site Restrictions

A. The following site restrictions apply to land where biosolids, which do not meet the Class A pathogen reduction requirements established in R18-9-1006, are land-applied.
1. A person shall not:
   a. Harvest food crop parts that touch the biosolids, or biosolids and soil mixture, but otherwise grow above the land's surface for 14 months following application;
   b. Harvest food crop parts growing in or below the land's surface for 20 months following application if the biosolids remain unincorporated on the land's surface for four months or more;
   c. Harvest food crop parts growing in or below the land's surface for 38 months following application if the biosolids remain on the land's surface for less than four months before incorporation;
   d. Harvest food, feed, and fiber crops for 30 days after application;
   e. Graze animals on the land for 30 days after application; or
   f. Harvest turf to be used at a public contact site or private residence for one year after application.
2. A person shall restrict public access to:
   a. Public contact sites for one year after application, and
   b. Land with a low potential for public exposure for 30 days after application.

B. If the vector attraction reduction requirement is met using the method:
1. In R18-9-1010(C)(1) or R18-9-1010(C)(2), the requirements of subsection (A) apply to domestic septage applied to agricultural land, forests, or reclamation sites; or
2. In R18-9-1010(C)(3), the requirements of subsection (A)(1)(a) through (A)(1)(d) apply to domestic septage applied to agricultural land, forests, or reclamation sites.

C. Once application is completed at a site, the applicator shall, in writing, provide the land owner and lessee with the following information:
1. The cumulative pollutant loading at the site if it is greater than or equal to 90% of the available site capacity established in Table 4 of R18-9-1005;
2. Any restriction established in this Section that applies to the property and the nature of the restriction; and
3. The signature of a responsible official of the applicator on this document that includes the following statement:
   "I certify under penalty of law, that the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for false representations, including fines and imprisonment."

D. The land owner or lessee shall provide each applicator with a signature indicating receipt of the site restriction statement.

Historical Note
New Section recodified from R18-13-1509 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1009 renumbered to R18-9-1010; new Section R18-9-1009 renumbered from R18-9-1008 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-1010. Vector Attraction Reduction

A. Except as provided in subsection (B), an applicator or person who prepares biosolids shall use one of the following vector attraction reduction procedures if biosolids are land-applied:
1. Reducing the mass of volatile solids by a minimum of 38% using the calculation procedures established in "Environmental Regulations and Technology -- Control of Pathogens and Vector Attraction in Sewage Sludge," EPA/625/R-92-013, published by the U.S. Environmental Protection Agency, Cincinnati, Ohio 45268, 1999 edition. This material is incorporated by reference, does not include any later amendments or editions of the incorporated matter, and is on file with the Department and the Office of the Secretary of State;
2. If the 38% volatile solids reduction cannot be met for anaerobically digested biosolids the reduction can be met by digesting a portion of the previously digested material anaerobically in a laboratory in a bench-scale unit for 40 additional days at a temperature between 30° C and 37° C. Vector attraction reduction is achieved if, at the end of the 40 days, the volatile solids in the material at the beginning of the period are reduced by less than 17%;
3. If the 38% volatile solids reduction cannot be met for aerobically digested biosolids, the reduction can be met by digesting a portion of the previously digested material, which has a percent solids of 2% or less, aerobically in a laboratory in a bench-scale unit for 30 additional days at 20° C. Vector attraction reduction is achieved if, at the end of the 30 days, the volatile solids in the material at the beginning of the period are reduced by less than 15%;
4. Treat the biosolids in an aerobic process during which the specific oxygen uptake rate (SOUR) is equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry-weight basis) at 20° C;
5. Treat the biosolids in an aerobic process for 14 days or longer, during which the temperature of the biosolids is higher than 40° C and the average temperature of the biosolids is higher than 45° C;
6. Raising the pH of the biosolids to 12 or higher by alkali addition and, without the addition of more alkali, remain at 12 or higher for two hours and at 11.5 or higher for an additional 22 hours;
7. The percent solids of the biosolids that do not contain unstabilized solids generated in a primary wastewater treatment process is equal to or greater than 75% based on the moisture content and total solids before mixing with other materials;
8. The percent solids of the biosolids containing unstabilized solids generated in a primary wastewater treatment process are equal to or greater than 90% based on the moisture content and total solids before mixing with other materials;
9. Injecting the biosolids below the surface of the land so that no significant amount of biosolids is present on the

land surface one hour after injection. If the biosolids meet Class A pathogen reduction, injection shall occur within eight hours after being discharged from a Class A pathogen treatment process; or

10. Incorporating the biosolids into the soil within six hours after application. If the biosolids meet Class A pathogen reduction, application shall occur within eight hours after being discharged from a Class A pathogen treatment process.

B. Biosolids that are sold or given away in a bag or other container, or are applied to a lawn or home garden, shall meet one of the vector attraction reduction alternatives established in subsections (A)(1) through (A)(8).

C. For domestic septage, vector attraction reduction is met by one of the following methods:

1. By injecting as specified in subsection (A)(9);
2. By incorporating as specified in subsection (A)(10); or
3. By raising the pH of the domestic septage to 12 or higher through the addition of alkali and, without the addition of more alkali, holding the pH at 12 or higher for at least 30 minutes.

Historical Note

New Section recodified from R18-13-1510 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1010 renumbered to R18-9-1011; new Section R18-9-1010 renumbered from R18-9-1009 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-1011. Transportation

A. A transporter of bulk biosolids into and within Arizona shall use covered trucks, trailers, rail-cars, or other vehicles that are leakproof.

B. A transporter of bulk biosolids in liquid or semisolid form, including domestic septage, into and within Arizona shall comply with the requirements in A.A.C. R18-8-612. A transporter of bulk biosolids in solid form into and within Arizona shall comply with the requirements in A.A.C. R18-13-310.

C. A transporter of biosolids shall clean any truck, trailer, rail-car, or other vehicle used to transport biosolids to prevent odors or insect breeding. A transporter shall clean any tank vessel used to transport commercial or industrial septage or restaurant grease-trap wastes, that is also used to haul domestic septage, before loading the domestic septage to ensure that mixing of wastes does not occur.

D. If bulk biosolids are spilled while being transported, the transporter shall:

1. Immediately pick up any spillage, including any visibly discolored soil, unless otherwise determined by the Department on a case-by-case basis;
2. Within 24 hours after the spill, notify the Department of the spill and submit written notification of the spill within seven days. The written notification shall include the location of the spill, the reason it occurred, the amount of biosolids spilled, and the steps taken to clean up the spill.

Historical Note

New Section recodified from R18-13-1511 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1011 renumbered to R18-9-1012; new Section R18-9-1011 renumbered from R18-9-1010 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1012. Self-monitoring

A. Except as provided in subsection (B) the person who prepares the biosolids shall conduct self-monitoring events at the frequency listed in Table 5 for the pollutants listed in R18-9-1005, the pathogen reduction in R18-9-1006 and the vector attraction reduction requirements in R18-9-1010.

Table 5. Frequency of Self-monitoring

Amount of biosolids prepared (tons/metric tons per 365-day period(1))	Frequency
Greater than zero but less than 319.6/290	Once per year
Equal to or greater than 319.6/290 but less than 1,653/1,500	Once per quarter (Four times per year)
Equal to or greater than 1,653/1,500 but less than 16,530/15,000	Once per 60 days (Six times per year)
Equal to or greater than 16,530/15,000	Once per month (12 times per year)

(1) The amount of biosolids prepared in a calendar year (dry-weight basis).

B. If biosolids are stockpiled or lagooned, the person shall sample the biosolids for pathogen and vector attraction reduction before land application. A person shall sample in a manner that is representative of the entire stockpile or lagoon.

C. A person who prepares biosolids shall submit additional or more frequent biosolids samples, collected and analyzed during the reporting period, to the Department with the regularly-scheduled data required in subsection (A).

D. The Department may order the person who prepares biosolids or the applicator to collect and analyze additional samples to measure pollutants of concern other than those established in Table 1 of R18-9-1005.

E. The applicator, person who prepares biosolids, or a person collecting samples for the applicator or preparer for analysis shall obtain the samples in a manner that does not compromise the integrity of the sample, sample method, or sampling instrument and shall be representative of the quality of the biosolids being applied during the reporting period.

F. A person responsible for sampling the biosolids shall track biosolids samples using a chain-of-custody procedure that documents each person in control of the sample from the time it was collected through the time of analysis.

G. The person who prepares biosolids or the applicator shall ensure that the biosolids samples are analyzed as specified by the analytical methods established in 40 CFR 503.8, July 1, 2001 edition, or by the wastewater sample methods and solid, liquid, and hazardous waste sample methods established in A.A.C. R9-14-612 and R9-14-613. The person who prepares the biosolids or the applicator shall ensure that the biosolids analyses are performed at a laboratory operating in compliance with A.R.S. § 36-495 et seq. The information in 40 CFR 503.8 is incorporated by reference, does not include any later amendments or editions of the incorporated matter and is on file with the Department and the Office of the Secretary of State.

H. The person who prepares the biosolids or the applicator shall monitor pathogen and vector attraction reduction treatment operating parameters, such as time and temperature, shall be monitored on a continual basis.

I. An applicator shall conduct and record monitoring of each site for the management practices established in R18-9-1007 and R18-9-1008.

J. A person shall maintain, as specified in R18-9-1013, and report to the Department as specified in R18-9-1014, all com-

pliance measurements, including the analysis of pollutant concentrations.

Historical Note
New Section recodified from R18-13-1512 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1012 renumbered to R18-9-1013; new Section R18-9-1012 renumbered from R18-9-1011 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

R18-9-1013. Recordkeeping

A. A person who prepares biosolids shall collect and retain the following information for at least five years:
1. The date, time, and method used for each sampling activity and the identity of the person collecting the sample;
2. The date, time, and method used for each sample analysis and the identity of the person conducting the analysis;
3. The results of all analyses of pollutants regulated under R18-9-1005 and organic and ammonium nitrogen to comply with R18-9-1007(A)(7);
4. The results of all pathogen density analyses and applicable descriptions of the methods used for pathogen treatment in R18-9-1006;
5. A description of the methods used, if any, and the operating values and ranges observed in any pre-land application, vector attraction reduction activities required in R18-9-1010(A); and
6. For the records described in subsections (A)(1) through (A)(5), the following certification statement signed by a responsible official of the person who prepares the biosolids:
   "I certify, under penalty of law, that the pollutant analyses and the description of pathogen treatment and vector attraction reduction activities have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

B. An applicator of bulk biosolids, except exceptional quality biosolids, shall collect the following information for each land application site, and, except as indicated in subsection (B)(6), shall retain this information for at least five years:
1. The location of each site, by either street address or latitude and longitude;
2. The number of acres or hectares;
3. The date and time the biosolids were applied;
4. The amount of biosolids (in dry metric tons);
5. The biosolids loading rates for domestic septage and other biosolids with less than 10 percent solids in tons or kilograms of biosolids per acre or hectare and in gallons per acre and the biosolids loading rates for other biosolids in tons or kilograms of biosolids per acre or hectare;
6. The cumulative pollutant levels of each regulated pollutant (in tons or kilograms per acre or hectare). The applicator shall retain these records permanently;
7. The results of all pathogen density analyses and applicable descriptions of the methods used for pathogen treatment in R18-9-1006;
8. A description of the activities and measures used to ensure compliance with the management practices in R18-9-1007 and R18-9-1008, including information regarding the amount of nitrogen required for the crop grown on each site;
9. If vector attraction reduction was not met by the person who prepares the biosolids, a description of the vector attraction reduction activities used by the applicator to ensure compliance with the requirements in R18-9-1010;
10. A description of any applicable site restriction imposed by in R18-9-1009 if biosolids with Class B pathogen reduction have been applied and documentation that the applicator has notified the land owner and lessee of these restrictions;
11. For the records described in subsections (B)(1) through (B)(8), the following certification statement signed by a responsible official of the applicator of the biosolids:
    "I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."
12. The information in subsections (A)(1) through (A)(6) if the person who prepares the biosolids is not located in this state.

C. All records required for retention under this Section are subject to periodic inspection and copying by the Department.

D. If there is unresolved litigation, including enforcement, concerning the activities documented by the records required in this Section, the period of record retention shall be extended pending final resolution of the litigation.

Historical Note
New Section recodified from R18-13-1513 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1013 renumbered to R18-9-1014; new Section R18-9-1013 renumbered from R18-9-1012 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1014. Reporting

A. A person who prepares biosolids for application shall provide the applicator with the necessary information to comply with this Article including the concentration of pollutants listed in R18-9-1005 and the concentration of nitrogen in the biosolids.

B. A transporter shall report spills to the Department under R18-9-1011(D).

C. A bulk applicator of biosolids other than exceptional quality biosolids shall provide the land owner and lessee of land application sites with information on the concentrations of the pollutants listed in R18-9-1005 and loading rates of biosolids applied to that site, and any applicable site restrictions under R18-9-1009.

D. A bulk applicator of biosolids other than exceptional quality biosolids shall report to the Department if 90% or more of any cumulative pollutant loading rate has been used at a site.

E. On or before February 19 of each year, any person land-applying bulk biosolids that are not exceptional quality biosolids shall, by letter or on a form provided by the Department, report to the Department the following applicable information for the previous calendar year:
1. The actual sites used; and
2. For each site used, the following information:
   a. The amount of biosolids applied (in tons or kilograms per acre or hectare);

b. The application loading rates (in tons or kilograms per acre or hectare, and gallons per acre for domestic septage);
c. The concentrations of the pollutants listed in R18-9-1005 (in milligrams per kilogram of biosolids on a dry-weight basis);
d. The pathogen treatment methodologies used during the year and the results; and
e. The vector attraction reduction methodologies used during the year and the results.

F. On or before February 19 of each year, a person preparing biosolids in a Class I Sludge Management Facility, POTW with a design flow rate equal to or greater than one million gallons per day, or POTW that serves 10,000 people or more, that are applied to land, shall, by letter or on a form provided by the Department, report to the Department all the following applicable information regarding their activities during the previous calendar year:
1. The amount of biosolids received if the preparer purchased or received the biosolids from another preparer or source;
2. The amount of biosolids produced (tons or kilograms);
3. The amount of biosolids distributed;
4. The concentrations of the pollutants listed in R18-9-1005 (in milligrams per kilogram of biosolids on a dry-weight basis);
5. The pathogen treatment methodologies used during the year, including the results; and
6. The vector attraction reduction methodologies used during the year, including the results.

G. All annual self-monitoring reports shall contain the following certification statement signed by a responsible official:

"I certify, under penalty of law, that the information and descriptions, have been made under my direction and supervision and under a system designed to ensure that qualified personnel properly gather and evaluate the information used to determine whether the applicable biosolids requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Historical Note
New Section recodified from R18-13-1514 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Former Section R18-9-1014 renumbered to R18-9-1015; new Section R18-9-1014 renumbered from R18-9-1013 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4). Amended by final rulemaking at 8 A.A.R. 4923, effective January 5, 2003 (Supp. 02-4).

R18-9-1015. Inspection

A person subject to this Article shall allow, during reasonable times, a representative of the Department to enter property subject to this Article, to:
1. Inspect all biosolids pathogen and vector treatment facilities, transportation vehicles, and land application sites to determine compliance with this Article;
2. Inspect and copy records prepared in accordance with this Article; and
3. Sample biosolids quality.

Historical Note
Renumbered from R18-9-1014 and amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).

Appendix A. Procedures to Determine Annual Biosolids Application Rates

The following procedure determines the annual biosolids application rate (ABAR) that ensures that the annual pollutant loading rates in Table 3 of R18-9-1005 are not exceeded.
1. The relationship between the annual pollutant loading rate (APLR) for a pollutant and the ABAR is shown in the following equation.

   APLR = C x ABAR x 0.001

   APLR = Annual pollutant loading rate in kilograms of biosolids, per hectare, per 365-day period;
   C = Pollutant concentration in milligrams, per kilogram of total solids (dry-weight basis);
   ABAR = Annual biosolids application rate in metric tons, per hectare, per 365-day period (dry-weight basis); and
   0.001 = A conversion factor.
   metric ton = 1.102 short tons
   hectare = 2.471 acres
2. The ABAR is calculated using the following procedure:
   a. Analyze a biosolids sample to determine a concentration for each of the pollutants listed in Table 3 of R18-9-1005; and
   b. Using each of the pollutant concentrations from subsection (2)(a) and the APLRs from Table 3 of R18-9-1005, calculate a separate ABAR for each pollutant using the following equation:

$$ABAR = \frac{APLR}{C \times 0.001}$$

   c. The ABAR for biosolids is the lowest value calculated in under subsection (2)(b) for any pollutant.

Historical Note
New Appendix recodified from 18 A.A.C. 13, Article 15 at 7 A.A.R. 2522, effective May 24, 2001 (Supp. 01-2). Amended by final rulemaking at 7 A.A.R. 5879, effective December 7, 2001 (Supp. 01-4).